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CRPL-F 218 PART A

FOR OFFICIAL USE

PART A  
IONOSPHERIC DATA

ISSUED  
OCTOBER 1962

U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS  
CENTRAL RADIO PROPAGATION LABORATORY  
BOULDER, COLORADO





IONOSPHERIC DATA

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## IONOSPHERIC DATA

The CRPL-F series bulletins are issued as part of the responsibility of the Central Radio Propagation Laboratory for the exchange and dissemination of ionospheric and related geophysical data. While originally a by-product of the collection of data by the CRPL for use in radio propagation studies, the CRPL-F series bulletins, Part A, "Ionospheric Data," and Part B, "Solar-Geophysical Data," have provided useful service by collecting and making available a wide variety of data in convenient form for use in research, not only on radio propagation and the ionosphere, but also on a wide variety of geophysical problems. Beginning with CRPL-F 211, Part A, "Ionospheric Data," a number of changes have been made in the tables of ionospheric data which, by providing more information, should increase their usefulness.

The current form of the tables of ionospheric data provides the monthly medians and, in addition, the number of values entering into median determination (count) for all ionospheric characteristics listed. Also, the upper and lower quartile values, indicated by UQ and LQ in the tables, are listed for foF2, h'F2, h'F, and (M3000)F2. Quartile values are not listed for the other characteristics because of space limitations. The tables are prepared by IBM machine methods, which, by improving the speed and efficiency of preparation, permit earlier publication of the data.

Graphs of critical frequencies and (M3000)F2 will continue to appear. Graphs of percentage of time of occurrence for fEs and virtual heights of the regular ionospheric layers are no longer included. This change was necessary to provide space for the enlarged tables. Data on percentage of time of occurrence of fEs above 3, 5, and 7 Mc are still available from the CRPL and the IGY World Data Center A for Airglow and Ionosphere.

For many years, the tables of ionospheric data appearing in the F-series, Part A, listed values of medians recomputed at CRPL. While this practice enforced a certain uniformity, it was subject to some valid criticism for tampering with original data. The tables and graphs now show the ionospheric data just as they are provided by the originating laboratory. Responsibility for the accuracy and reliability of the data now rests entirely with the originator.

Gaps in the tables when data normally might be expected indicate the data were not provided by the originator. Following the recommendation of the World-Wide Soundings Committee, only values of median foEs are listed. In the few cases where fEs is still reported instead of foEs, the data will not be printed. Data will appear in the F-series, Part A, only when the complete daily-hourly tabulations have been received by the CRPL or the IGY World Data Center A for Airglow and Ionosphere.



Information on symbols, terminology, and conventions may be found in the "URSI Handbook of Ionogram Interpretation and Reduction, of the World-Wide Soundings Committee," edited by W. R. Piggott and K. Rawer (Elsevier, 1961), which supersedes previous documents. A list of symbols is available from CRPL on request.

The following table contains the latest available information on smoothed observed Zurich sunspot numbers, beginning with the minimum of April 1954. Final numbers are listed through June 1961, the succeeding values being based on provisional data.

Smoothed Observed Zurich Sunspot Number

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1954				3	4	4	5	7	8	8	9	12
1955	14	16	19	23	29	35	40	46	55	64	73	81
1956	89	98	109	119	127	137	146	150	151	156	160	164
1957	170	172	174	181	186	188	191	194	197	200	201	200
1958	199	201	201	197	191	187	185	185	184	182	181	180
1959	179	177	174	169	165	161	156	151	146	141	137	132
1960	129	125	122	120	117	114	109	102	98	93	88	84
1961	80	75	69	64	60	56	53	52	52	51	50	48
1962	44	41	39									

Units of Ionospheric Data Tables

foF2, foEs - - - Tenths of a megacycle  
 foF1, FoE - - - Hundredths of a megacycle  
 h'F2, h'F, h'E - Kilometers  
 (M3000)F2 - - - Hundredths

NOTE: Occasionally, when the median falls between two of the observed values, the median is carried an extra decimal place beyond these units. Those cases are easily identifiable by the extra digit appearing to the right of the number, in a column usually left blank.

MED - Median  
 CNT - Count  
 UQ - Upper Quartile  
 LQ - Lower Quartile

## WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 100 and figures 1 to 100 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue.

Commonwealth of Australia, Ionospheric Prediction Service of the  
Commonwealth Observatory:  
Mawson

Australian Department of National Development, Bureau of Mineral  
Resources, Geology and Geophysics:  
Mundaring, Western Australia

Electronics Directorate of the Brazilian Navy:  
Natal, Brazil

Danish National Committee of URSI:  
Narssarssauq, Greenland

Ionospheric Research Group (GRI), France:  
Dakar, French West Africa  
Djibouti, French Somaliland  
Paris, France  
Tahiti, Society Is.  
Tananarive, Madagascar

Indian Council of Scientific and Industrial Research, Radio Research  
Committee, New Delhi, India:  
Ahmedabad (Physical Research Laboratory)  
Bombay (All India Radio)  
Delhi (All India Radio)  
Kodaikanal (India Meteorological Department)  
Madras (All India Radio)  
Tiruchy (All India Radio)  
Trivandrum (All India Radio)

Geophysical and Geodetic Institute, Genoa, Italy:  
Genoa (Monte Capellino), Italy

Christchurch Geophysical Observatory, New Zealand Department of  
Scientific and Industrial Research:  
Campbell I.  
Christchurch, New Zealand  
Rarotonga, Cook Is.

United States Army Signal Corps:

Adak, Alaska

Ft. Monmouth, New Jersey

Grand Bahama I.

National Bureau of Standards (Central Radio Propagation Laboratory):

Anchorage, Alaska

Huancayo, Peru (Instituto Geofisico de Huancayo)

Point Barrow, Alaska

Talara, Peru (Instituto Geofisico de Huancayo)

Washington, D. C.





## TABLES OF IONOSPHERIC DATA

January 1962 - April 1959

TABLE 1

WASHINGTON, D.C. (30.7N, 77.1W)

TIME 75.0W

[illegible]

SWEEP 1 + 0 MC TO 25 + 0 MC IN 13 + 5 SECONDS\*

JANUARY, 1962

TABLE 3

ADAK, ALASKA (51-ON, 17A-AW)

TIME 180-00

[illegible]

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

FEBRUARY, 1961

TABLE 2

ANCHORAGE, ALASKA (61.2N, 149.9W)

TIME 150.0W

hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6 F2																								
MED	U	335	335	285	30	U	24	24	24	39	53	58	63	65	65	52	41	32	23	21	U	20	18	19
CNT	8	6	6	9	7	3	5	5	14	29	28	29	28	27	29	30	28	17	8	1	3	3	3	3
h' F2																								
MED	U	335	335	285	30	U	24	24	24	39	53	58	63	65	65	52	41	32	23	21	U	20	18	19
CNT	8	6	6	9	7	3	5	5	14	29	28	29	28	27	29	30	28	17	8	1	3	3	3	3
h' F																								
MED	U	335	335	285	30	U	24	24	24	39	53	58	63	65	65	52	41	32	23	21	U	20	18	19
CNT	8	6	6	9	7	3	5	5	14	29	28	29	28	27	29	30	28	17	8	1	3	3	3	3
h' F1																								
MED	U	335	335	285	30	U	24	24	24	39	53	58	63	65	65	52	41	32	23	21	U	20	18	19
CNT	8	6	6	9	7	3	5	5	14	29	28	29	28	27	29	30	28	17	8	1	3	3	3	3
f6 E																								
MED	U	335	335	285	30	U	24	24	24	39	53	58	63	65	65	52	41	32	23	21	U	20	18	19
CNT	8	6	6	9	7	3	5	5	14	29	28	29	28	27	29	30	28	17	8	1	3	3	3	3
h' E																								
MED	U	335	335	285	30	U	24	24	24	39	53	58	63	65	65	52	41	32	23	21	U	20	18	19
CNT	8	6	6	9	7	3	5	5	14	29	28	29	28	27	29	30	28	17	8	1	3	3	3	3
f6 Ea																								
MED	U	335	335	285	30	U	24	24	24	39	53	58	63	65	65	52	41	32	23	21	U	20	18	19
CNT	8	6	6	9	7	3	5	5	14	29	28	29	28	27	29	30	28	17	8	1	3	3	3	3

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

DECEMBER, 1961

TABLE

WASHINGTON, D.C. 138.7N, 77.1W)

TIME 75.0W

hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	MEQ	25	26	31	34	355	345	295	35	55	62	67	72	75	76	72	67	58	46	37	28	24	24	24
	CNT	30	31	59	59	30	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
	MEQ	25	26	31	34	355	345	295	35	55	62	67	72	75	76	72	67	58	46	37	28	24	24	24
	UQ	25	24	25	30	32	30	25	23	52	59	62	67	70	69	67	62	51	40	33	26	23	22	22
h'F2	MEQ									230	235	242	245	240	240	235								
	CNT									1	13	20	24	29	28	25	3							
	MEQ									230	235	242	245	240	240	235								
	UQ									225	230	230	240	240	240	230								
h'F	MEQ	2678	585	275	260	350	240	250	240	220	220	210	210	205	210	215	225	225	220	210	225	245	260	300
	CNT	330	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331
	MEQ	2678	585	275	260	350	240	250	240	220	220	210	210	205	210	215	225	225	220	210	225	245	260	300
	UQ	270	270	260	250	235	230	235	225	520	515	500	500	500	500	500	500	500	500	500	500	500	500	500
IM3000IF2	MEQ	290	300	300	300	3125	325	315	322	355	350	350	345	335	340	340	340	340	335	330	330	330	315	300
	CNT	277	277	277	277	28	28	27	28	28	31	31	31	31	31	31	31	31	31	31	31	31	31	31
	MEQ	290	300	300	300	3125	325	315	322	355	350	350	345	335	340	340	340	340	335	330	330	330	315	300
	UQ	280	290	285	300	305	310	310	310	340	340	335	330	330	330	335	330	330	335	330	320	315	285	290
f6F1	MEQ									1	2	1	1											
	CNT																							
	MEQ									1925	240	270	285	300	280	275	245	205						
	UQ									1	26	29	30	29	29	27	48	33						
h'E	MEQ									E	111	109	109	109	111	105	115	123						
	CNT									1	24	29	30	31	31	30	29	19						
	MEQ									20	26	31	32	32	30	29	25	21	18					
f6E4	MEQ	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
	CNT																							
	MEQ	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

DECEMBER, 1961

TABLE 6

ADAX • ALASKA (51.9N, 170.6W)

[illegible]

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

DECEMBER, 1961

TABLE 8

TALARA, PERU (4.6S, 81.3W)

		INCIDENT PERIOD (1935-2015)												TIME 75-100										
HOUR		00	01	02	03	04	05	06	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
f6F2	MED	835	73	565	395	31	29	45	745	93	102	105	1125	118	1175	116	117	114	1175	0	117	113	99	935
	CNT	102	84	61	48	45	58	46	77	107	113	120	120	120	120	120	120	120	120	120	120	120	120	
	Q1	74	67	63	36	27	24	42	70	88	97	105	105	106	110	110	110	110	110	110	108	107	102	
	LQ																							
h'F2	MED								285	300	305	320	320											
	CNT								1	5	16	17	11	9										
	Q1								260	295	295	300	310											
	LQ																							
h'F	MED	2225	215	220	2375	240	250	2625	235	220	2075	200	200	190	190	195	200	200	200	200	250	230	220	215
	CNT	28	28	28	26	27	30	29	28	30	29	30	25	27	26	18	19	27	28	28	26	24	24	
	Q1	210	220	235	240	245	270	270	240	255	210	215	205	200	200	200	220	240	260	270	270	240	230	
	LQ	215	210	215	240	235	255	250	235	215	200	185	190	185	190	195	210	215	230	240	250	250	250	
IM35000F2	MED	335	345	340	335	330	330	315	3275	310	2975	305	275	265	270	270	265	265	255	280	305	315	3275	335
	CNT	21	21	17	21	25	26	29	240	30	30	28	28	28	30	29	29	30	30	30	210	185	15	
	Q1	340	355	350	330	345	340	320	305	300	285	265	270	275	260	290	310	320	340	355	335	355	315	
	LQ	325	330	320	310	330	320	305	315	300	280	260	260	250	260	255	255	250	260	270	295	300	300	
f6F1	MED												460	460										
	CNT												8	8										
	Q1												3	11										
	LQ																							
f6E	MED						2	245	255	325	3675	350	350	350	350									
	CNT							24	24	28	28	28	28	28	28	25	23	24	16	10	12	4		
	Q1																							
	LQ																							
h'E	MED																							
	CNT																							
	Q1																							
	LQ																							
f6EA	MED	37	38	32	27	21	185	21	36	34	355	375	395	39	425	385	405	42	415	415	335	265	25	305
	CNT	30	30	30	30	30	30	30	29	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	Q1																							
	LQ																							

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

NOVEMBER, 1961

TABLE 5

1000

		TALHAR, YU. (INVEST. 81.30)																							
HOUR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6f2	MED	70	66	44	35	285	275	36	67	69	98	106	110	113	112	1099	110	1126	112	110	108	109	102	86	724
	U																								
	Q1	47	15	14	18	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
	Q3	57	55	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	
	Q5	60	57	30	30	21	22	31	63	80	93	101	100	109	107	105	105	102	102	100	100	101	80	72	59
f6f2	MED									260	300	310	330	310	310	300	2975								
	U																								
	Q1									2	38	23	17	20	12	31	7	6	3						
	Q3									275	295	300	310	300	300	280	290								
	Q5																								
f6f	MED	U325	225	230	535	540	270	235	220	210	200	190	190	U495	1875	190	700	230	250	240	330	2175	2175	235	
	U																								
	Q1	24	24	22	23	26	23	29	30	28	30	25	24	26	25		21	19	27	31	34	30	30	25	
	Q3	255	245	240	250	260	270	240	230	220	210	200	200	200	200	200	200	200	250	250	240	235	235	255	
	Q5	230	220	215	220	230	205	195	185	180	180	180	180	180	180	180	180	215	245	230	200	400	410	420	210
f65000f2	MED	335	U45	300	375	3275	3325	310	3245									2775	285	300	326		3375	335	320
	U																								
	Q1	315	30	37	70	26	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	
	Q3	345	355	355	335	340	350	325	335	335	320	320	300	295	295	295	295	305	300	330	3525	350	350	330	
	Q5	320	330	320	320	315	320	300	315	305	295	290	270	250	255	250	255	260	265	285	310	325	320	315	315
f6f1	MED									3	12				460	465	465								
	CNT														17	19	6								
f6e	MED									U					U										
	CNT									225	260	325	340	360	370	360	350	335	305	265	212	5			
											13	22	27	27	27	27	27	28	15	15					
f6e	MED																								
	CNT																								
f6e	MED																								
	CNT																								

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

DECEMBER, 1961

TABLE 7

GRAND BAHAMA I. 126-6N, 78-2W)

[illegible]

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

NOVEMBER, 1961





TABLE I

[illegible]

JUNE, 1961

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS\*

[illegible]

MAY. 1961

SWEPT 1.0 MC TO 25.0 MC IN 13.5 SECONDS\*

AUGUST, 1961

STEPS 0+1 MC TO 2+0 MC IN 3+5 SECONDS\*

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
FeF <sub>2</sub>																								
MED	45	45	435	44	44	43	45	45	50	49	47	48	49	50	51	505	51	515	49	47	45	435	45	44
CNT	19	20	17	17	17	11	21	21	22	25	26	26	26	29	30	31	28	30	25	24	26	27	23	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
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LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48	48	45	42	40	48	46	46	49	
LO	43	41	40	36	40	35	31	42	42	40	40	41	42	38	48									

MAY, 1961

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.



HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16 F2	MED	31	32	31.5	32	32.5	32.7	32.5	32	29	70	73	76	87	85	84	87	79	76	70	60.5			
	CNT	21	21	22	22	24	23	22	27	27	29	28	26	25	25	27	28	27	27	28				
	LO	36	34	35	34	33	31	28	27	69	79	84	88	92	88	95	91	86	82	76	65			
	LO	28	26	27	25	21	24	25	40	58	60	65	71	76	75	78	74	70	65	59	48			
	LO																							
16 F2	MED	25	26	25.5	26	26.5	26.7	26.5	26	23	55	58	60	67	65	64	67	59	56	50	40.5			
	CNT	15	16	16.5	16	16.5	16.7	16.5	16	13	18	19	20	22	21	21	22	19	18	16	14			
	LO	30	28	29	28	27	25	24	23	58	68	72	76	80	78	81	78	72	66	58	48			
	LO																							
	LO																							
16 F	MED	28.5	28	28.5	28	29	29.5	29	28.5	25	60	63	66	70	68	67	70	62	58	50	40.5			
	CNT	19	20	20.5	19	20	20.5	19	18.5	15	20	21	22	24	23	23	24	21	20	18	16			
	LO	36	34	35	34	33	31	28	27	69	79	84	88	92	88	95	91	86	82	76	65			
	LO	28	26	27	25	21	24	25	40	58	60	65	71	76	75	78	74	70	65	59	48			
	LO																							
16 F	MED	28.5	28	28.5	28	29	29.5	29	28.5	25	60	63	66	70	68	67	70	62	58	50	40.5			
	CNT	19	20	20.5	19	20	20.5	19	18.5	15	20	21	22	24	23	23	24	21	20	18	16			
	LO	36	34	35	34	33	31	28	27	69	79	84	88	92	88	95	91	86	82	76	65			
	LO	28	26	27	25	21	24	25	40	58	60	65	71	76	75	78	74	70	65	59	48			
	LO																							
16 F	MED	28.5	28	28.5	28	29	29.5	29	28.5	25	60	63	66	70	68	67	70	62	58	50	40.5			
	CNT	19	20	20.5	19	20	20.5	19	18.5	15	20	21	22	24	23	23	24	21	20	18	16			
	LO	36	34	35	34	33	31	28	27	69	79	84	88	92	88	95	91	86	82	76	65			
	LO	28	26	27	25	21	24	25	40	58	60	65	71	76	75	78								

TABLE 24

F16 HORNBOUTH, NEW JERSEY 14.04.89, 74.1481														TIME 75.50										
HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
6.62	34	35	31	31	32	33.5	33	33.5	40	74	86	88	89	90	92	91	88.5	76	7	5.8	64	39	34	32.5
MED	29	27	29	26	24	24	23	30	31	31	30	30	31	30	38	40	37	29	4	2.7	29	4	27	40
Q10	38	39	36	36	38	38	40	69	88	104	105	99	98	97	84	76	62	48	4	37	36	36	36	36
LQ	28	28	28	28	28	25	23	33	55	68	77	86	85	84	88	88	78	51	63	52	46	45	41	28
MEC										247	240	245	250	248	245									
Q10										240	246	248	250	260	258									
LQ										246	248	248	250	260	257									
MEC										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
Q10										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
LQ										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
MEC										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
Q10										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
LQ										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
MEC										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
Q10										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
LQ										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
MEC										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
Q10										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
LQ										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
MEC										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
Q10										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
LQ										217	218.5	218	217	217	217	217	217	217	217	217	217	217	217	217
MEC										217	218.5	218	217	217	217									

TABLE 21

TABLE 23

NABEAS (SUDDO), GREENLAND (63.1-2N, 45.5-W)																TIME 45.0				
DATE	TIME	U	V	U	V	U	V	U	V	U	V	U	V	U	V	U	V	U	V	
1963	01	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	02	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	03	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	04	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	05	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	06	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	07	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	08	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	09	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	10	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	11	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	12	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	13	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	14	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	15	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	16	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	17	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	18	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	19	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	20	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5	71	33	52	31.0	285	3125	500
1963	21	36	4.0	35	125	27	33	5.0	02	75	46	81	76.5							



TABLE 26

$$D_A \approx \Delta H, \quad E_{H_2} \approx N, \quad W, \quad \Delta F_{H_2} \approx \Delta, \quad 16, \quad 2H, \quad 17, \quad 4W$$
[illegible]

WCEP 1.2 MC TO 17.0 MC.

0961 4879W373C

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[illegible]

WEEP 1-4 MC TO 17-0 MC -

OFFENSES, 1940

TABLE 27

110^{\wedge} ITT. CODEMCM 50M817+88C 111 4N. 43 261

[illegible]

SWEEP 1.25 MC TO 20.0 MC

DECEMBER, 1960

TABLE 28

STABILITY SOCIETY IS. 117.75, 149.3W)

no. R		0.0	0	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1602	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1603	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1604	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1605	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1606	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1607	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1608	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1609	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1610	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1611	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1612	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1613	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1614	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1615	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1616	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1617	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1618	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1619	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
1620	MED	1.77	2.4	3.6	9.8	8.7	7.8	8.1	9.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
	ENT	2.8	2.5	2.7	2.7	2.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5

SWEEP 1.2 MC TO 17.0 MC IN 1 MINUTE.

OCTOBER, 1960



726.2	36
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[illegible]

TABLE 36

[illegible]

TABLE 23

DJB010115 5465N 110W 30M 11.200-11.40N, 4/24/01																								TIME 44.00			
hour	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23			
16#2																											
MED	0.7	1.6	0.4	0.4	0.7	0.6	0.7	0.2	1.7	1.2	1.0	1.2	0.3	1.4	1.0	1.2											
CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
LO																											
16#2																											
MED	0.5	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3											
CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
LO																											
16#1																											
MED	0.5	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3											
CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
LO																											
16#000102																											
MED	1.5	1.0	1.3	1.2	1.3	1.0	1.2	1.0	1.2	1.0	1.2	1.0	1.2	1.0	1.2	1.0											
CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
LO																											
16#																											
MED	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8											
CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											
LO																											
16#																											
MED	1.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8											
CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0											

TABLE 35

PDRP		QC	Q	Q <sub>2</sub>	Q <sub>3</sub>	Q <sub>4</sub>	Q <sub>5</sub>	Q <sub>6</sub>	Q <sub>7</sub>	Q <sub>8</sub>	Q <sub>9</sub>	Q <sub>10</sub>	Q <sub>11</sub>	Q <sub>12</sub>	Q <sub>13</sub>	Q <sub>14</sub>	Q <sub>15</sub>	Q <sub>16</sub>	Q <sub>17</sub>	Q <sub>18</sub>	Q <sub>19</sub>	Q <sub>20</sub>	Q <sub>21</sub>	Q <sub>22</sub>	Q <sub>23</sub>	
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380	375	380	375	380	375	380	375	380	375
16F2	MED CNT	7	9	15	23	28	26	29	21	15	24	19	14	24	36	375	380									



$$- \Delta_{\text{eff}} A = \text{det}(\partial_\mu \tilde{T}) \tilde{T}^\mu_\nu + \Delta_{\text{eff}} B = - \Delta_{\text{eff}} \tilde{T}^\mu_\nu \tilde{T}^\nu_\mu + \Delta_{\text{eff}} C = - \Delta_{\text{eff}} \tilde{T}^\mu_\mu \tilde{T}^\nu_\nu + \Delta_{\text{eff}} C$$

		03	04	05	06	07	08	09	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
16A1	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16A2	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16A3	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16A4	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16A5	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16B1	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16B2	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16B3	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16B4	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16B5	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16C1	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16C2	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16C3	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16C4	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16C5	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16D1	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100							
16D2	ME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35																																																																								

SWEEP 1.0 MC TO 20.0 MC IN 5 MINUTES, AUTOMATIC DEGRATING, JN.

OCTOBER, 1965

$$u_1 u_2 u_3 u_4 u_5 u_6 u_7 u_8 u_9 u_{10} u_{11} u_{12} u_{13} u_{14} u_{15} u_{16} u_{17} u_{18} u_{19} u_{20} u_{21} u_{22} u_{23} u_{24} u_{25} u_{26} u_{27} u_{28} u_{29} u_{30} u_{31} u_{32} u_{33} u_{34} u_{35} u_{36} u_{37} u_{38} u_{39} u_{40} u_{41} u_{42} u_{43} u_{44} u_{45} u_{46} u_{47} u_{48} u_{49} u_{50} u_{51} u_{52} u_{53} u_{54} u_{55} u_{56} u_{57} u_{58} u_{59} u_{60} u_{61} u_{62} u_{63} u_{64} u_{65} u_{66} u_{67} u_{68} u_{69} u_{70} u_{71} u_{72} u_{73} u_{74} u_{75} u_{76} u_{77} u_{78} u_{79} u_{80} u_{81} u_{82} u_{83} u_{84} u_{85} u_{86} u_{87} u_{88} u_{89} u_{90} u_{91} u_{92} u_{93} u_{94} u_{95} u_{96} u_{97} u_{98} u_{99} u_{100}$$
[illegible]

SWEEP 1.25 MC TO 20.0 MC.

100

[illegible]

med:sp	W	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23
f6F2	MEQ	1.34	140	127	88	59	45	63	11	11	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	10	18	17	18	14	17	23	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F2	MEQ																							
	CAT																							
	UD																							
h F	MEQ																							
	CAT																							
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	CAT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	UD																							
h F	MEQ	1.1	1.3	3.1	1	1	28	28	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

SWEEP 1.2 MC TO 17.0 MC.

OCTOBER, 1960

AHITI • SOCIETY IS • (17,75, 149, 341)

[illegible]

SWEEP 1.2 MC TO 17.0 MC IN 1 MINUTE.

OCTOBER, 1960







PARIS, FRANCE (48.1N, 2.3E)

TIME 15.04

SCENCA (MONTE CAPELLINO): ITALY (46.6N, 9.0E)

TIME 15.0E

[illegible]

TABLE 51

TABLE 52

$$\text{SWEEP } 1 \leftrightarrow \text{MC TO } 17+0 \text{ MC}$$

AUGUST, 1960

SWEEP 1.0 MC TO 20.0 MC IN 5 MINUTES. AUTOMATIC OPERATION.

AUGUST, 1960

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

AUGUST, 1960

SWEEP 1.2 MC TO 17.0 MC.

AUGUST, 1960



GENOA (MONTE CAPELLINOT), ITALY (44.6N, 9.0E)

TIME 15.00

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
f6F2	MED	75	75	71	67	64	62	68	68	69	74	75	81	80	85	82	83	80	80	80	83	85	83	81	79
CNT		29	29	28	30	29	31	29	28	29	27	30	28	29	26	28	30	31	31	31	30	30	30	30	30
LOG		5.2	4.6	4.2	3.8	3.5	3.7	4.2	4.8	5.0	5.0	5.2	5.3	5.5	5.6	5.5	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	
f6F1	MED																								
CNT																									
LOG																									
f6E	MED																								
CNT																									
LOG																									
f6Ea	MED																								
CNT																									
LOG																									

SWEEP 1.0 MC TO 25.0 MC IN 5 MINUTES, AUTOMATIC OPERATION.

JULY, 1960

TABLE 59

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	MED																							
CNT																								
LOG																								
f6F1	MED																							
CNT																								
LOG																								
f6F	MED																							
CNT																								
LOG																								
(M3000)F2	MED																							
CNT																								
LOG																								
f6E	MED																							
CNT																								
LOG																								
f6Ea	MED																							
CNT																								
LOG																								

SWEEP 1.2 MC TO 17.0 MC.

JULY, 1960

FT. MONMOUTH, NEW JERSEY (40.4N, 74.1W)

TIME 75.00

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	MED	565	55	485	47	40	42	48	53	57	59	61	625	635	635	64	6	67	68	69	69	69	69	69
CNT	29	29	30	31	30	30	28	27	27	27	28	30	30	30	31	31	31	31	31	31	31	31	31	31
LOG	5.2	4.6	4.2	3.8	3.5	3.7	4.2	4.8	5.0	5.0	5.2	5.3	5.5	5.6	5.5	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
f6F1	MED																							
CNT																								
LOG																								
f6F	MED	575	575	580	571	580	584	537	520	520	515	508	497	500	504	510	511	524	524	524	524	524	524	524
CNT	29	30	31	30	30	30	28	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	
LOG	5.2	4.6	4.2	3.8	3.5	3.7	4.2	4.8	5.0	5.0	5.2	5.3	5.5	5.6	5.5	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	
(M3000)F2	MED	275	280	275	280	280	295	300	285	270	265	270	270	270	275	270	275	280	280	280	280	280	280	
CNT	29	28	29	28	25	28	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27	
LOG	5.2	4.6	4.2	3.8	3.5	3.7	4.2	4.8	5.0	5.0	5.2	5.3	5.5	5.6	5.5	5.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	
f6E	MED																							
CNT																								
LOG																								
f6Ea	MED																							
CNT																								
LOG																								

SWEEP 1.0 MC TO 25.0 MC IN 13.5 SECONDS.

JULY, 1960

TABLE 60

HOUR	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
f6F2	MED																							
CNT																								
LOG																								
f6F1	MED																							
CNT																								
LOG																								
f6F	MED																							
CNT																								
LOG																								
(M3000)F2	MED																							
CNT																								
LOG																								
f6E	MED																							
CNT																								
LOG																								
f6Ea	MED																							
CNT																								
LOG																								

SWEEP 1.25 MC TO 20.0 MC.

JULY, 1960







TABLE 70

CHRISTCHURCH, NEW ZEALAND (43.65° 172.8E)

[illegible]

SWEEP 1.0 MC TO 22.0 MC IN 7 SECONDS.

NOVEMBER, 1959

TABLE A9

MS. 165.014

[illegible]

SWEEP 1.0 MC TO 22.0 MC IN 7 SECONDS.

NOVEMBER • 1959

TABLE 71

[illegible][illegible]

SWEEP 1.0 MC TO 10.0 MC IN 2 MINUTES.

NOVEMBER, 1959

TABLE 72

$$r_{\text{AWG}}^{\text{I}}(N, A) = (21 \pm 2)^{\circ} \text{C} \quad (1^{\circ} \text{C} \text{ km})$$

WDR		00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16-2	MFO	1	0	89	84	86	92	109	112	118	124	132	141	140	141	137	140	138	140	135	134	128	121	119	118
	ENT	1	27	28	27	28	28	27	26	28	28	28	29	29	30	31	31	30	28	29	23	18	19	16	17
	UD																								
16-1	MFO																								
	ENT																								
	UD																								
16-F	MFO																								
	ENT																								
	UD																								
1M3000012	MFO	230	260	270	275	275	290	325	325	300	295	285	285	280	275	275	280	285	290	285	290	285	280	285	285
	ENT	18	24	26	27	27	25	26	25	28	28	28	29	29	30	31	30	30	27	28	22	15	13	12	13
	UD																								
16-1	MFO																								
	ENT																								
	UD																								
16-E	MFO																								
	ENT																								
	UD																								
16-E	MFO																								
	ENT																								
	UD																								
16-F	MFO																								
	ENT																								
	UD																								

SWEEP 1.0 MC TO 22.0 MC IN 7 SECONDS.

OCTOBER, 1959



\*REP\*

CAMPELL 14 1524.55, 169.72E)

MOJ	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
16F2	49	46	45	42	46	40	40	51	58	63	70	84	104	108	107	105	99	88	73	64	56	50	55	51
CNT	29	29	28	27	28	28	29	29	28	28	27	27	31	29	29	29	28	28	26	26	26	26	25	26
16F2																								
CNT																								
16F																								
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TABLE 81

BOMBAY, INDIA (19.0N, 72.0E)

TIME 75.0E

[illegible]

SWEEP 1.5 MC TO 16.0 MC IN 5 MINUTES, MANUAL OPERATION.

JULY, 1959

TABLE 83

**Figure 1**

505

[illegible]

SWEEP 1.5 MC TO 18.0 MC IN 5 MINUTES, MANUAL OPERATION.

JULY • 1959

TABLE 82

MADRAS. INOIA 113+1N. 80+3E1

TIME 75.0E

[illegible]

SWEEP 2.5 MC TO 18.0 MC IN 5 MINUTES, MANUAL OPERATION.

JULY, 1959

TABLE 84

[illegible]

2000

[illegible]

SWEEP 1.0 MC TO 25.0 MC IN 27 SECONDS.

JULY • 1959



TIME 165.0E

SWEEP 10, MC TO 130.2 MC IN 2 MINUTES.

JUNE, 1959

TABLE 91

AHMEDABAD, INDIA (23 JUN 72) 6EJ

WEGE 45 M: 10 24: MC IN 5 MINUTES, AUTOMATIC, 100%.

MAY 1959

TABLE 92

SOMHAY, [NÓ(A 419.0N, 72.8E)]

SLEEP 1.5 MC TO 18.0 MC IN 5 MINUTES; MANUAL OPERATION.

MAY, 1959

SWEEP 2.5 MC TO 18.0 MC IN 5 MINUTES, MANUAL OPERATION.

MAY, 1959

SWEEP 1.5 MC TO 18.0 MC IN 5 MINUTES\* MANUAL OPERATION\*

MAY, 1959

[illegible]

SWEEP 1.0 MC TO 25.0 MC IN 27 SECONDS.

MAY 1959

SWEEP 1.5 MC TO 18.0 MC IN 5 MINUTES, MANUAL OPERATION.

MAY, 1959

[illegible]

SWEEP 1.5 MC TO 18.0 MC IN 5 MINUTES, MANUAL OPERATION.

MAY, 1959





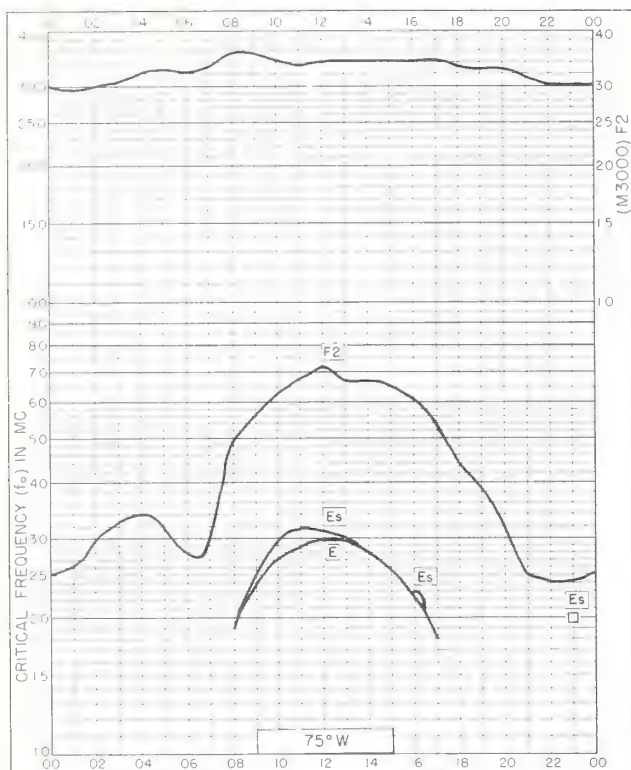


Fig. 1. WASHINGTON, D.C.  
38.7°N, 77.1°W JANUARY 1962

NBS 503

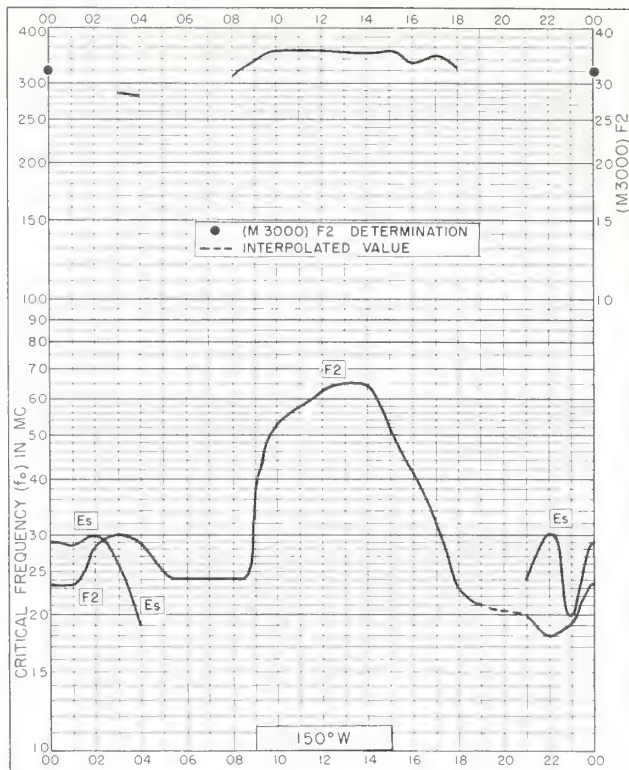


Fig. 2. ANCHORAGE, ALASKA  
61.2°N, 149.9°W DECEMBER 1961

NBS 503

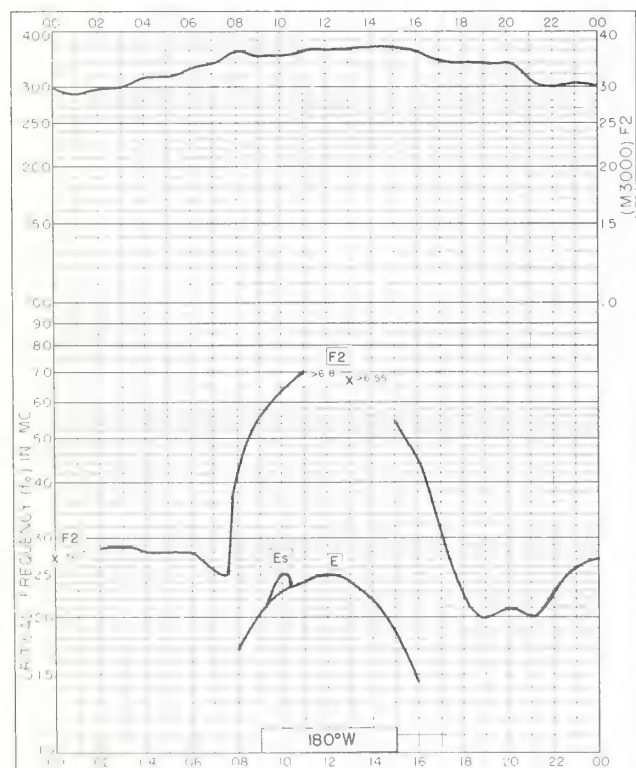


Fig 3 ADAK, ALASKA  
51.9°N, 176.6°W DECEMBER 1961

NBS 503

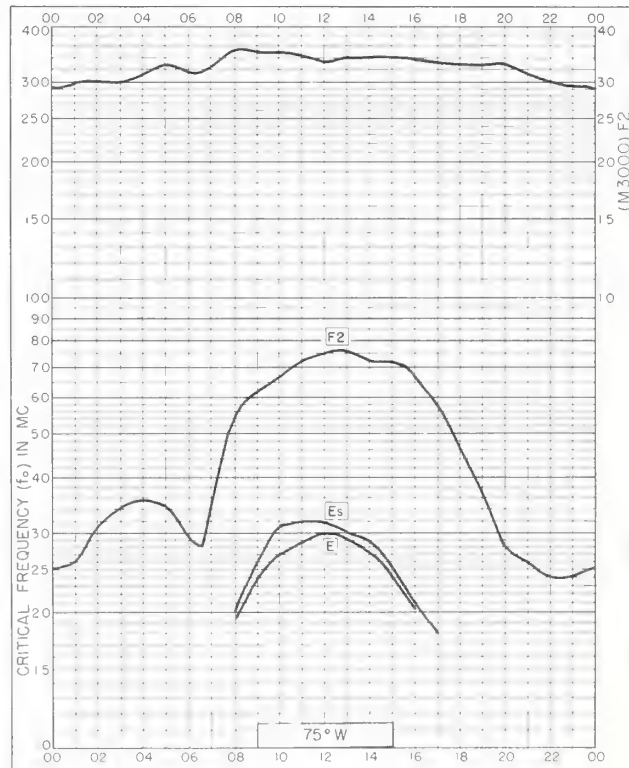


Fig. 4. WASHINGTON, D.C.  
38.7°N, 77.1°W DECEMBER 1961

NBS 503

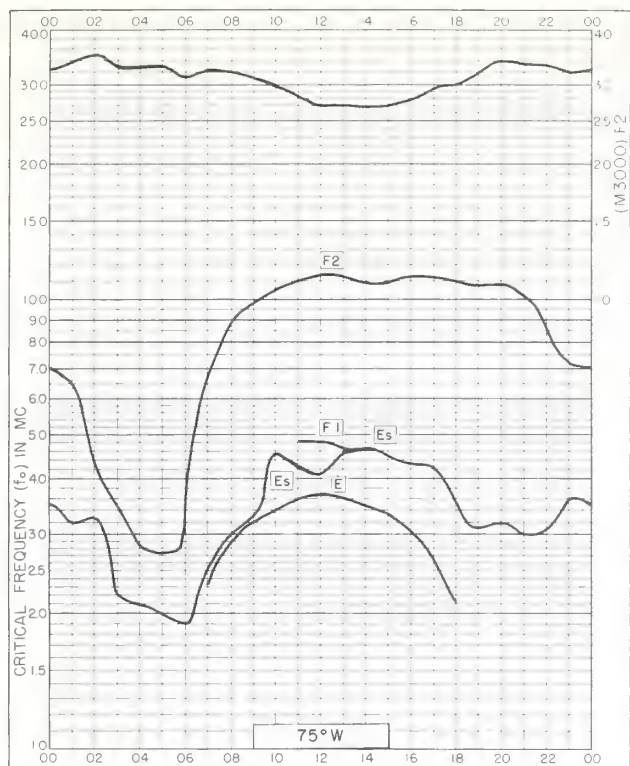


Fig. 5. TALARA, PERU  
4.6°S, 81.3°W

DECEMBER 1961

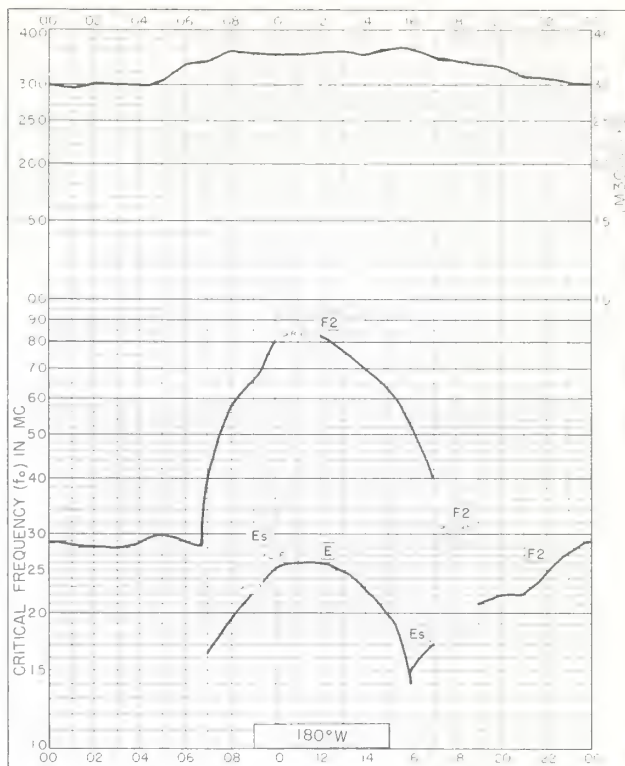


Fig. 6. ADAK, ALASKA  
51.9°N, 176.6°W

NOVEMBER 1961

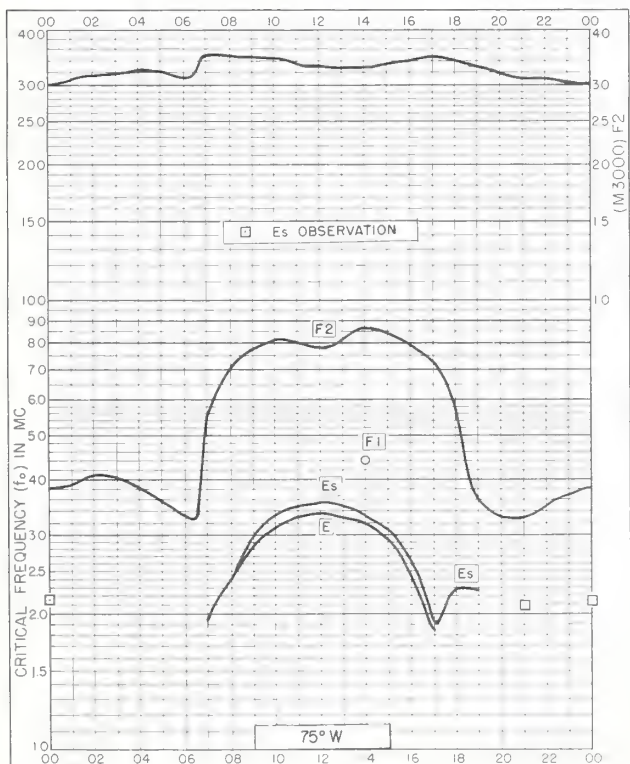


Fig. 7. GRAND BAHAMA I.  
26.6°N, 78.2°W

NOVEMBER 1961

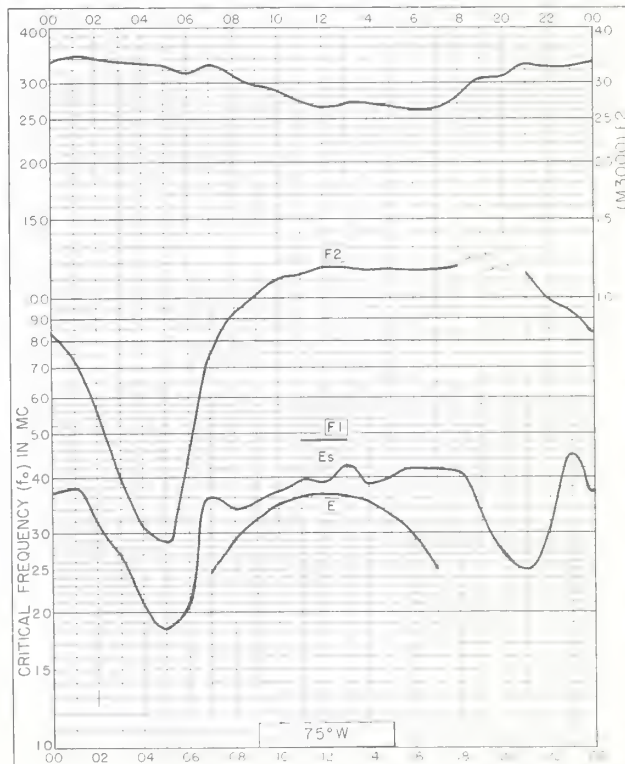


Fig. 8. TALARA, PERU  
4.6°S, 81.3°W

NOVEMBER 1961



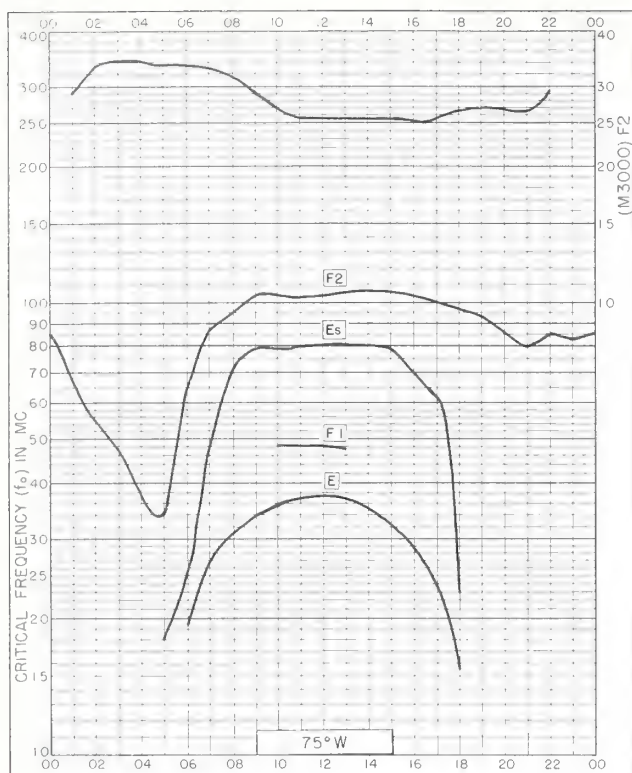


Fig. 9. HUANCAYO, PERU  
12.0°S, 75.3°W NOVEMBER 1961

NBS 503

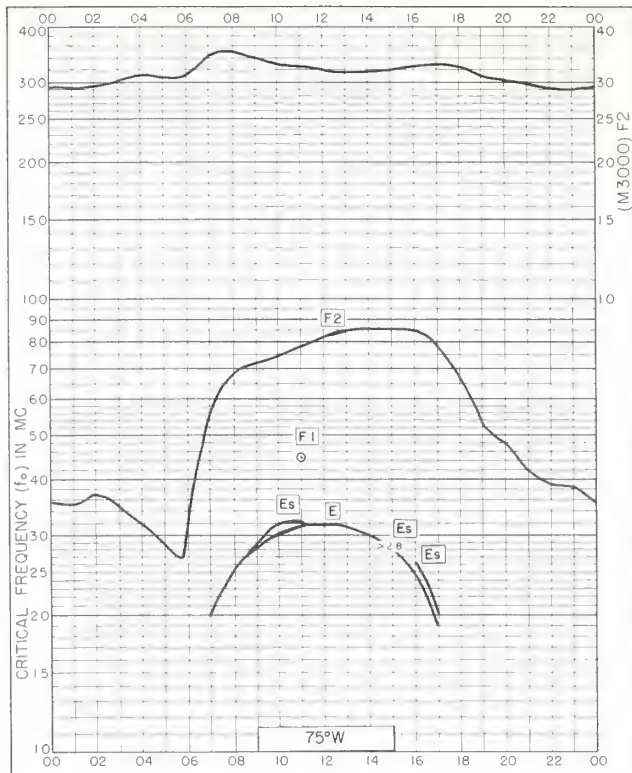


Fig. 10. WASHINGTON, D.C.  
38.7°N, 77.1°W OCTOBER 1961

NBS 504

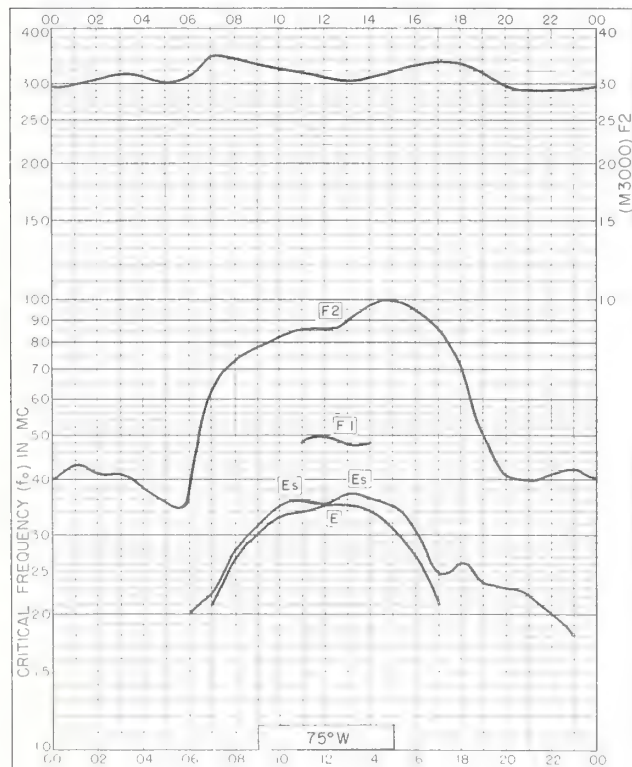


Fig. 11. GRAND BAHAMA I.  
26.6°N, 78.2°W OCTOBER 1961

NBS 503

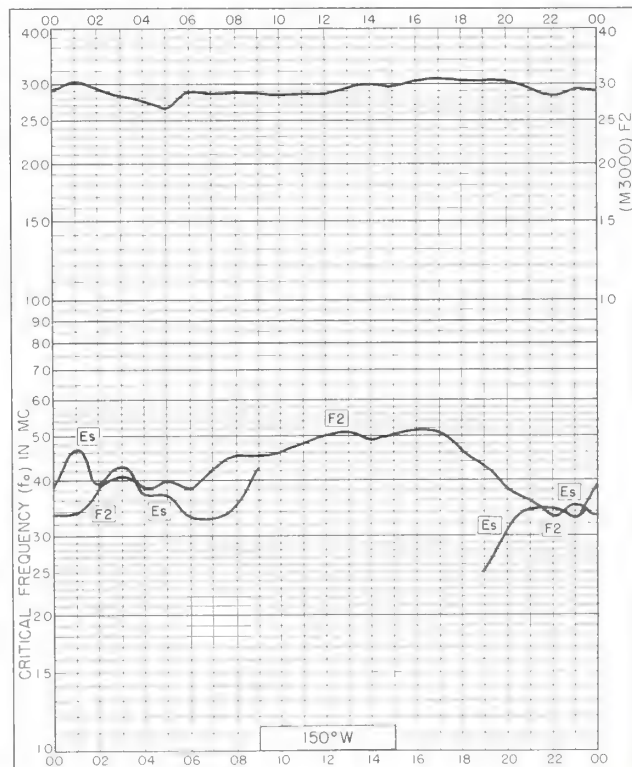


Fig. 12. POINT BARROW, ALASKA  
71.3°N, 156.8°W SEPTEMBER 1961

NBS 503



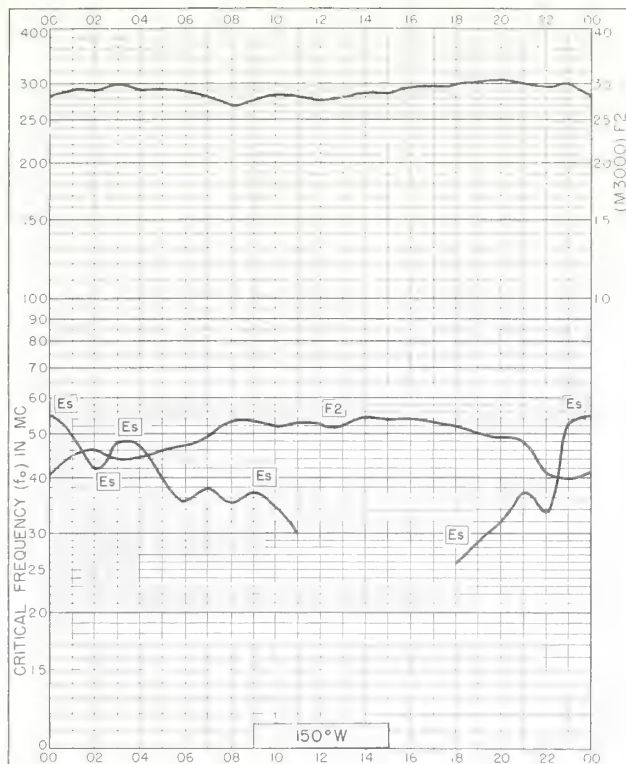


Fig. 13. POINT BARROW, ALASKA  
71.3°N, 156.8°W  
AUGUST 1961

NBS 503

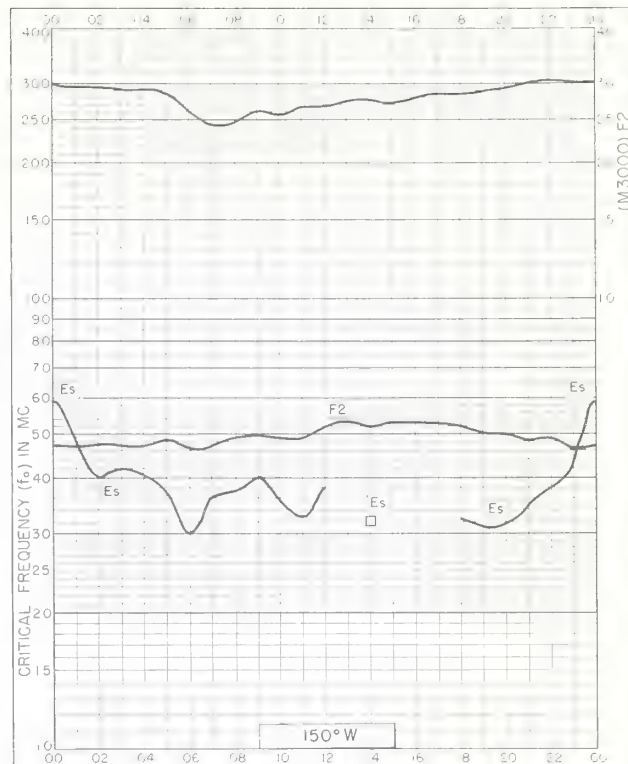


Fig. 14. POINT BARROW, ALASKA  
71.3°N, 156.8°W  
JUNE 1961

NBS 503

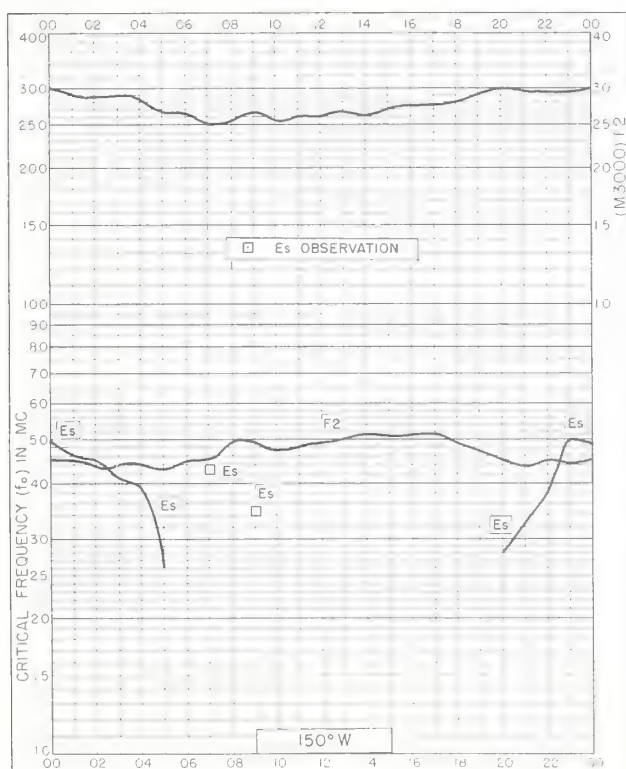


Fig. 15. POINT BARROW, ALASKA  
71.3°N, 156.8°W  
MAY 1961

NBS 503

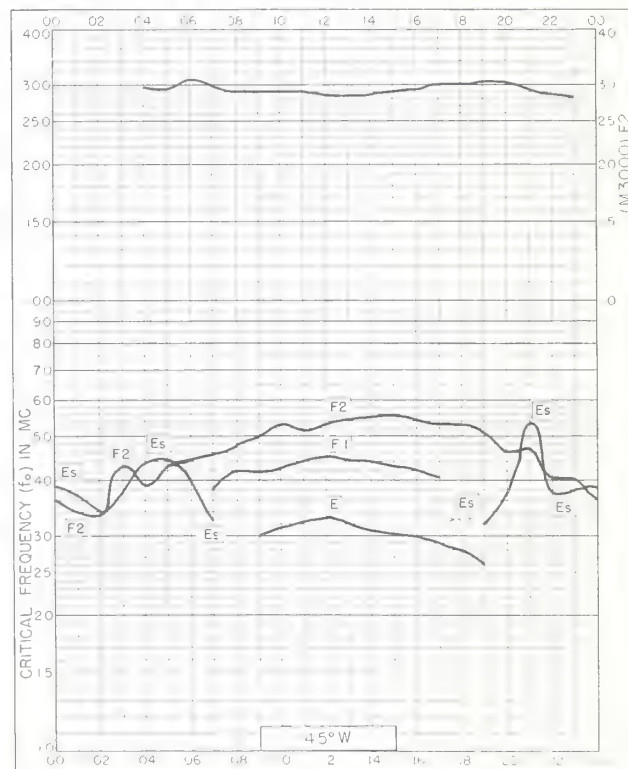


Fig. 16. NARSSARSSUAQ, GREENLAND  
61.2°N, 45.4°W  
MAY 1961

NBS 503

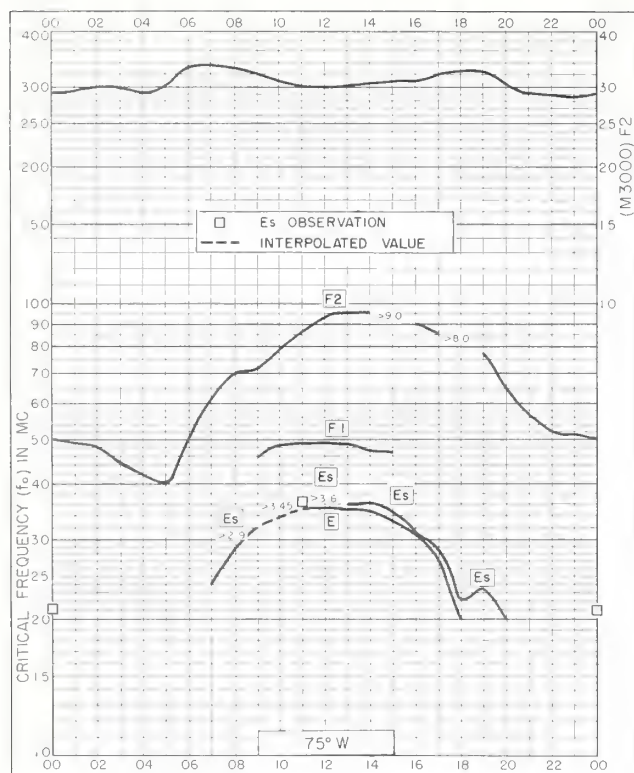


Fig. 17. GRAND BAHAMA I.  
26.6°N, 78.2°W

APRIL 1961

NBS 503

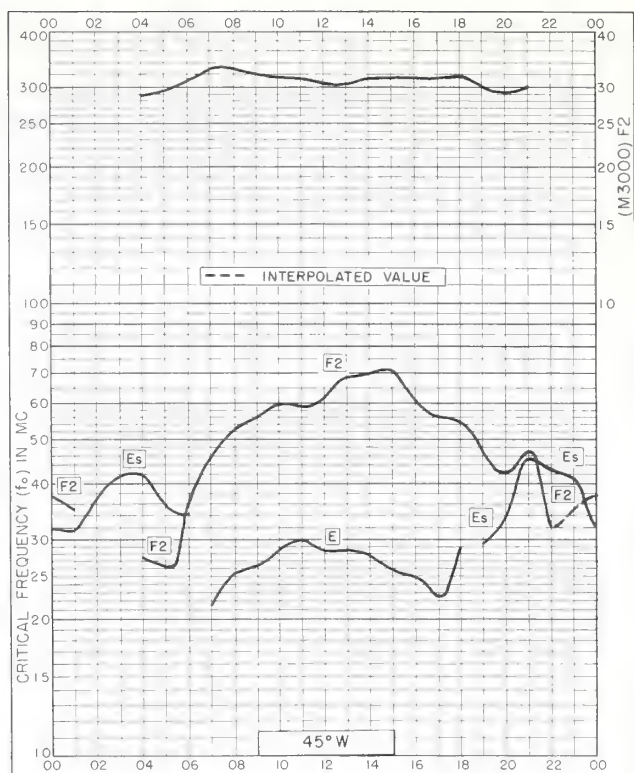


Fig. 18. NARSSARSSUAQ, GREENLAND  
61.2°N, 45.4°W

MARCH 1961

NBS 503

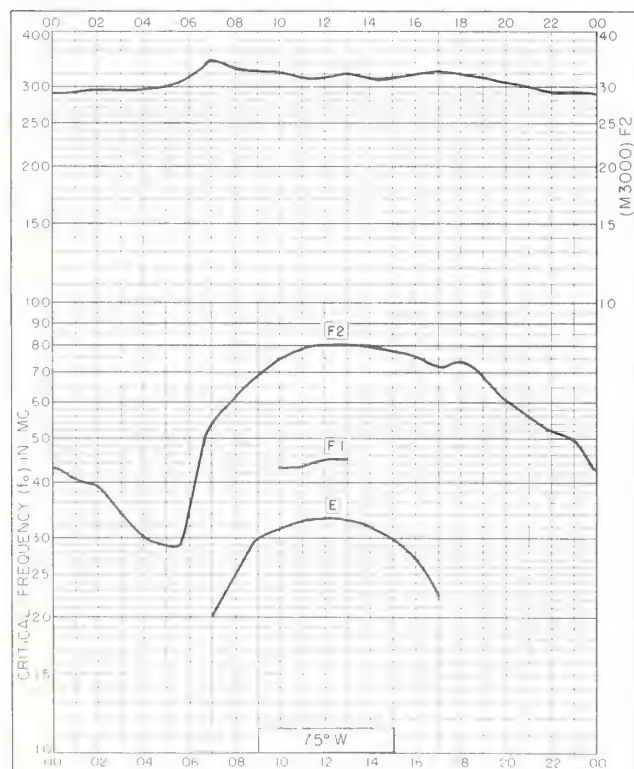


Fig. 19. FT. MONMOUTH, NEW JERSEY  
40.4°N, 74.1°W

MARCH 1961

NBS 503

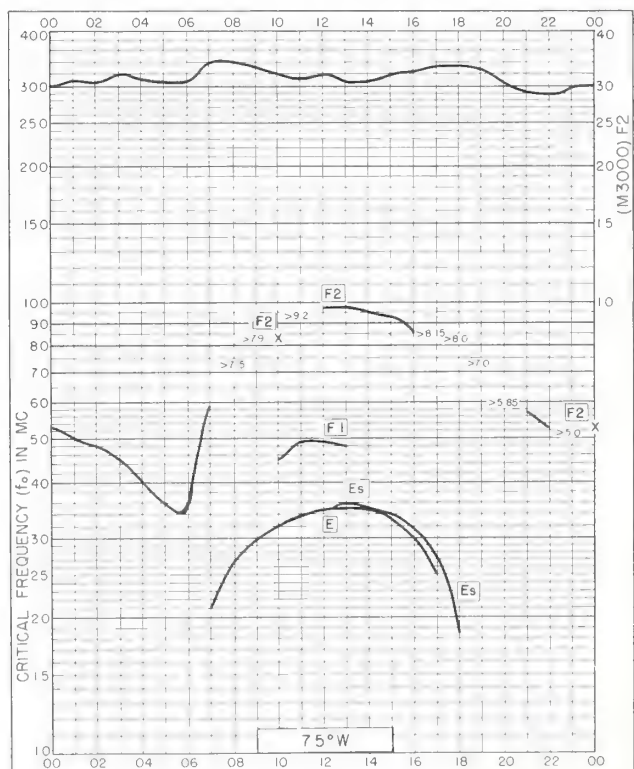


Fig. 20. GRAND BAHAMA I.  
26.6°N, 78.2°W

MARCH 1961

NBS 503

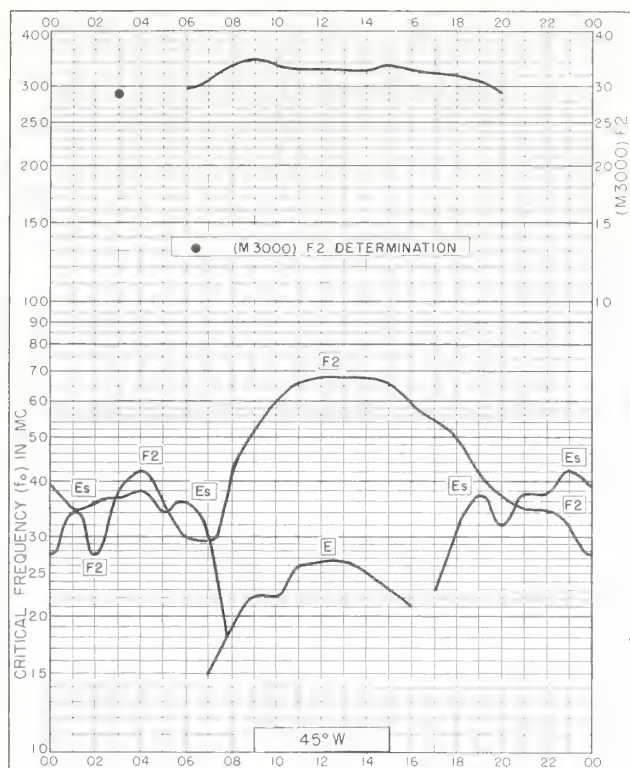


Fig. 21. NARSSARSSUAQ, GREENLAND  
61.2°N, 45.4°W FEBRUARY 1961

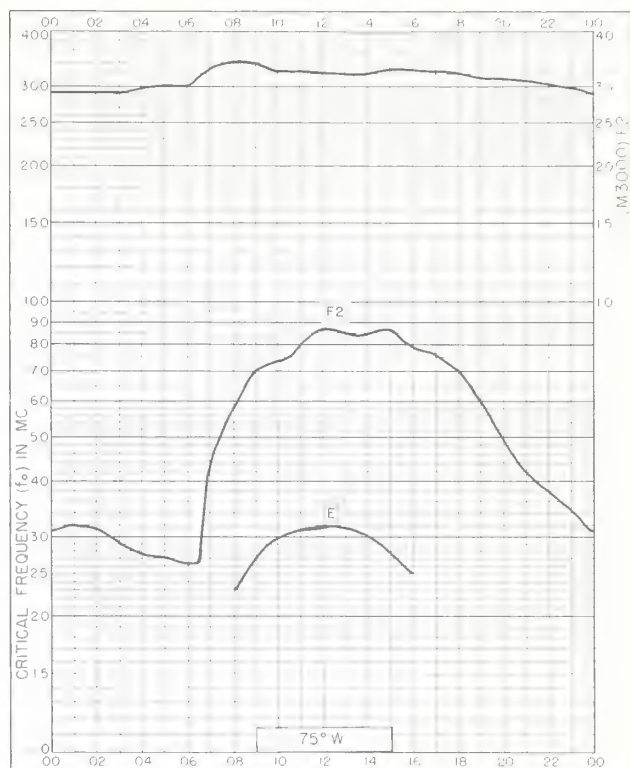


Fig. 22. FT. MONMOUTH, NEW JERSEY  
40.4°N, 74.1°W FEBRUARY 1961

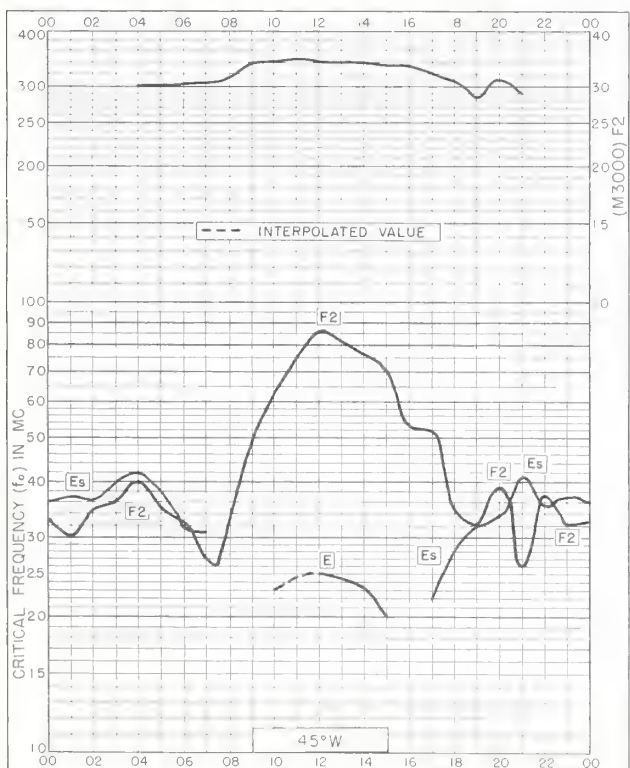


Fig. 23. NARSSARSSUAQ, GREENLAND  
61.2°N, 45.4°W JANUARY 1961

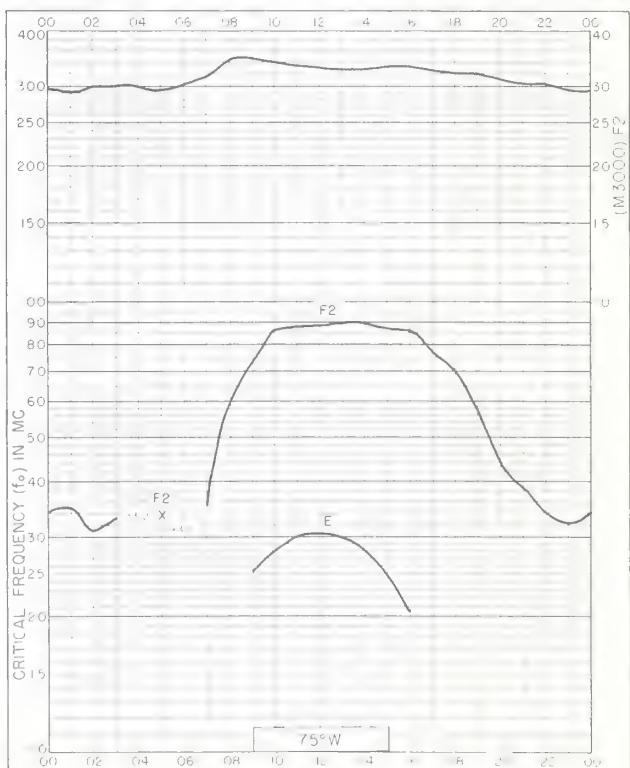


Fig. 24. FT. MONMOUTH, NEW JERSEY  
40.4°N, 74.1°W JANUARY 1961



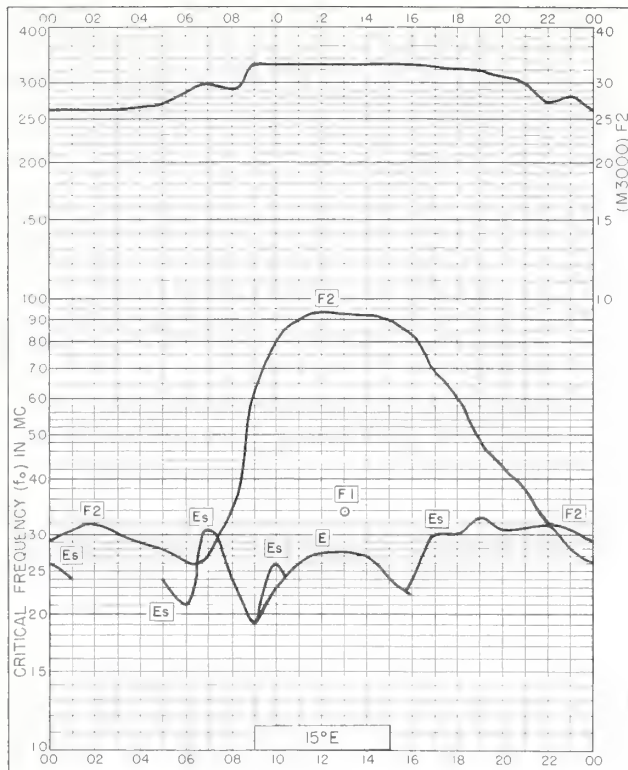


Fig. 25. PARIS, FRANCE  
48.1°N, 2.3°E

DECEMBER 1960

NBS 503



Fig. 26. DAKAR, FRENCH W. AFRICA  
14.8°N, 17.4°W

DECEMBER 1960

NBS 503

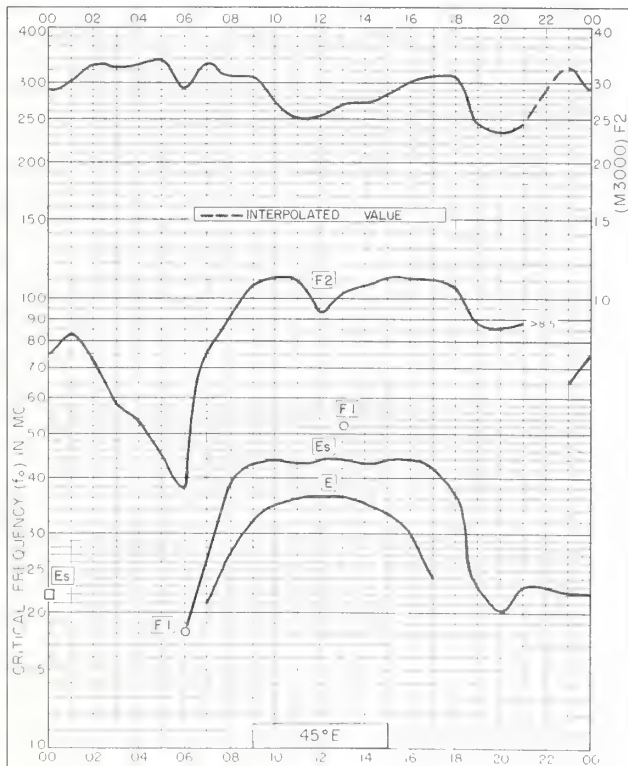


Fig. 27. DJIBOUTI, FRENCH SOMALILAND  
11.6°N, 43.2°E

DECEMBER 1960

NBS 503

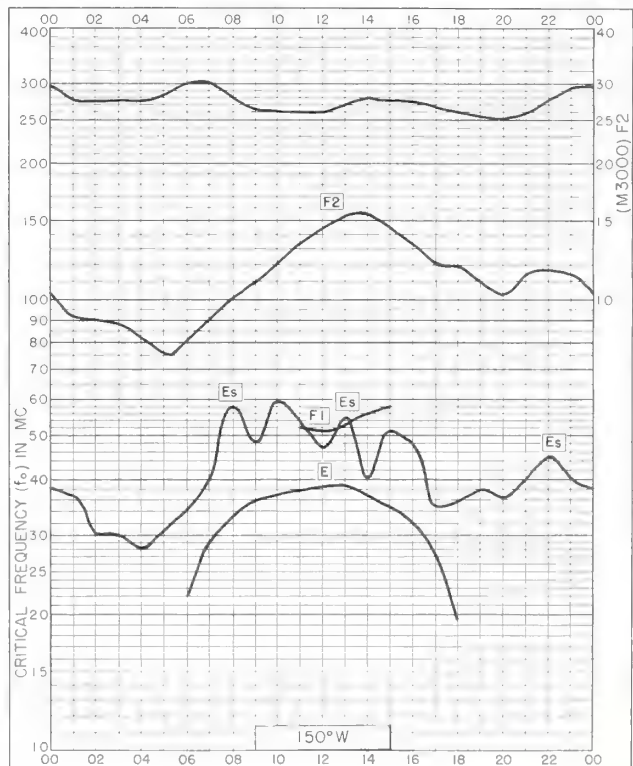


Fig. 28. TAHITI, SOCIETY IS.  
17.7°S, 149.3°W

DECEMBER 1960

NBS 503



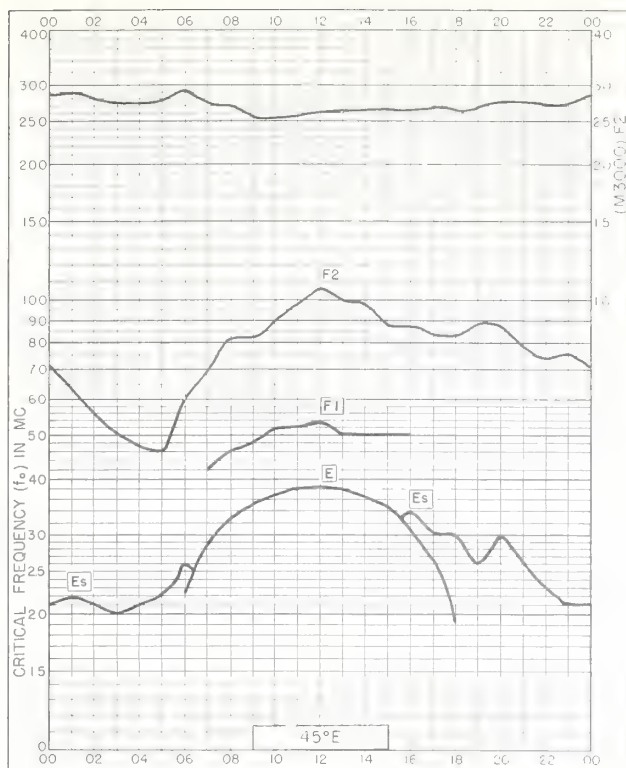


Fig. 29. TANANARIVE, MADAGASCAR  
18.8°S, 47.5°E DECEMBER 1960

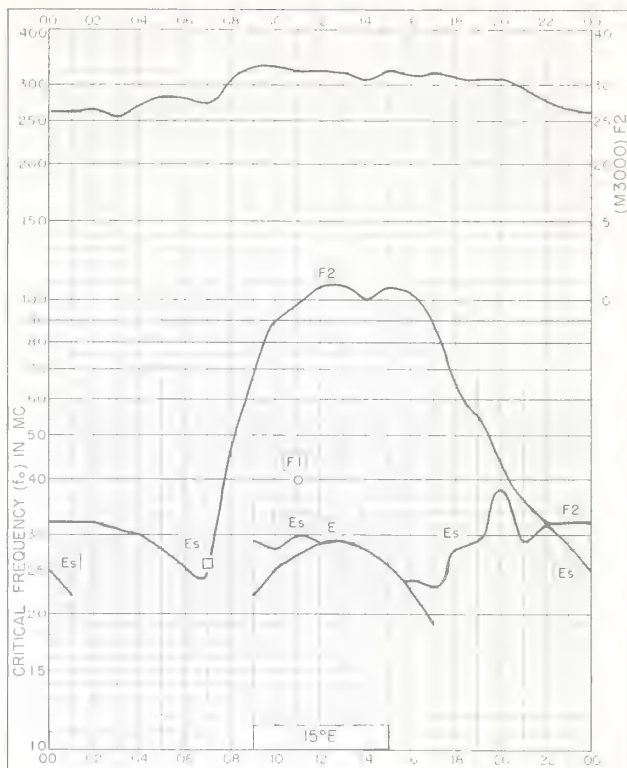


Fig. 30. PARIS, FRANCE  
48.1°N, 2.3°E NOVEMBER 1960

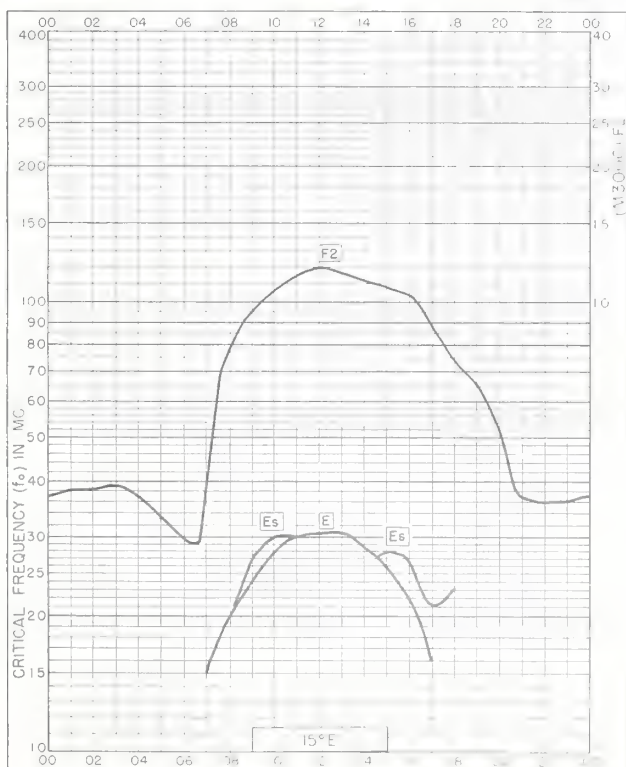


Fig. 31. GENOA (MONTE CAPELLINO), ITALY  
44.6°N, 9.0°E NOVEMBER 1960

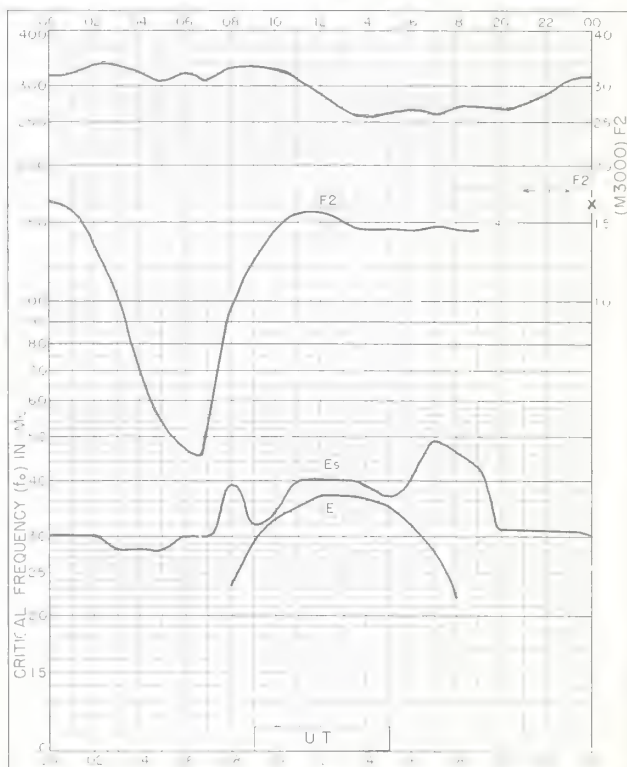


Fig. 32. DAKAR, FRENCH W. AFRICA  
14.8°N, 17.4°W NOVEMBER 1960

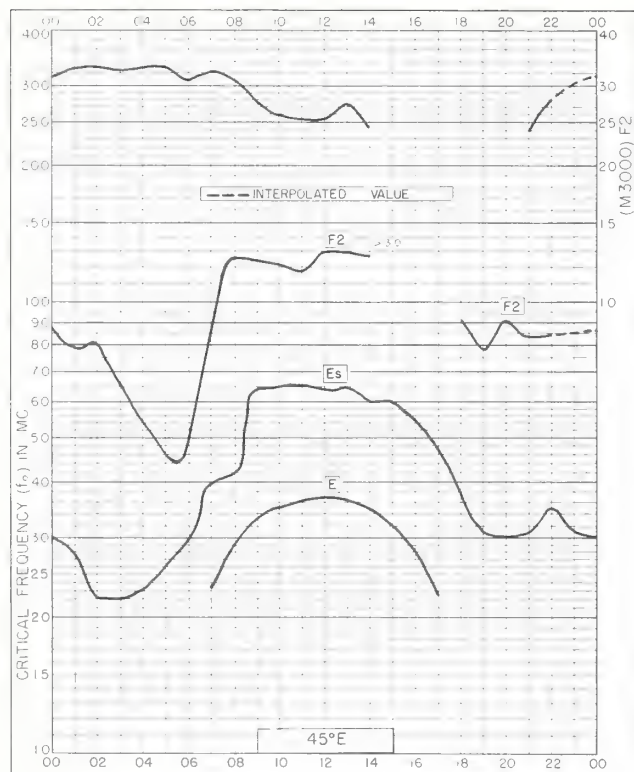


Fig. 33. DJIBOUTI, FRENCH SOMALILAND  
11.6°N, 43.2°E NOVEMBER 1960

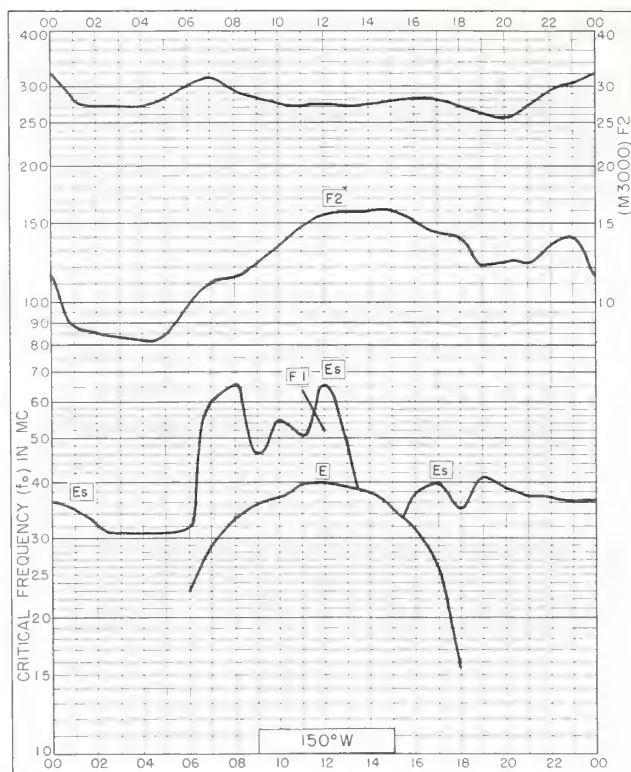


Fig. 34. TAHITI, SOCIETY IS.  
17.7°S, 149.3°W NOVEMBER 1960

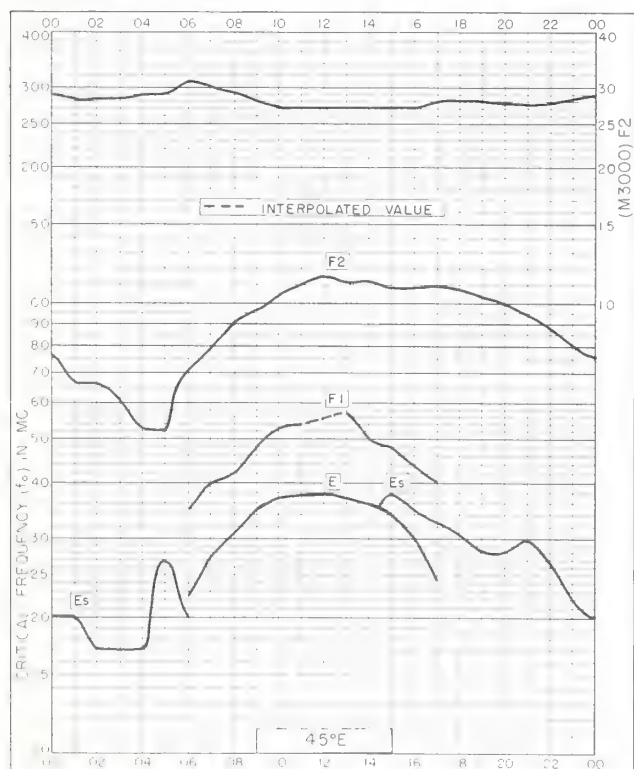


Fig. 35. TANANARIVE, MADAGASCAR  
18.8°S, 47.5°E NOVEMBER 1960

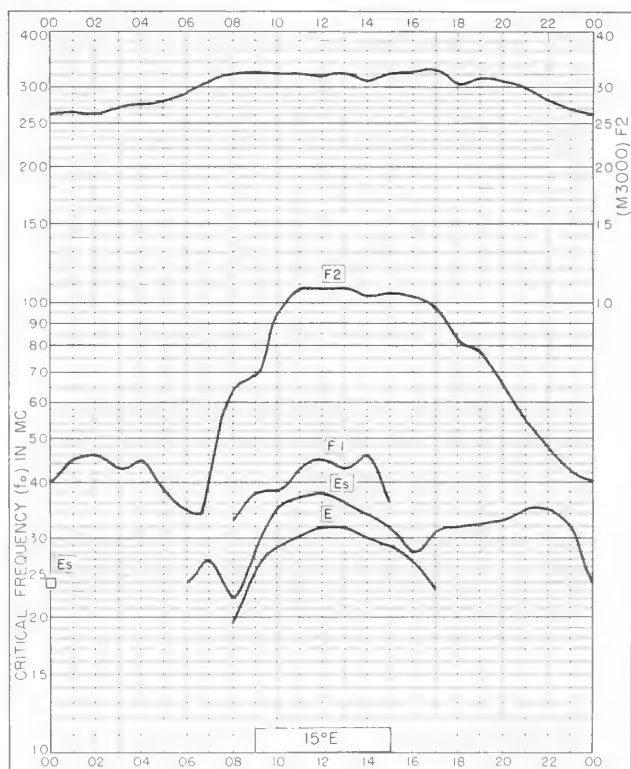


Fig. 36. PARIS, FRANCE  
48.1°N, 2.3°E OCTOBER 1960

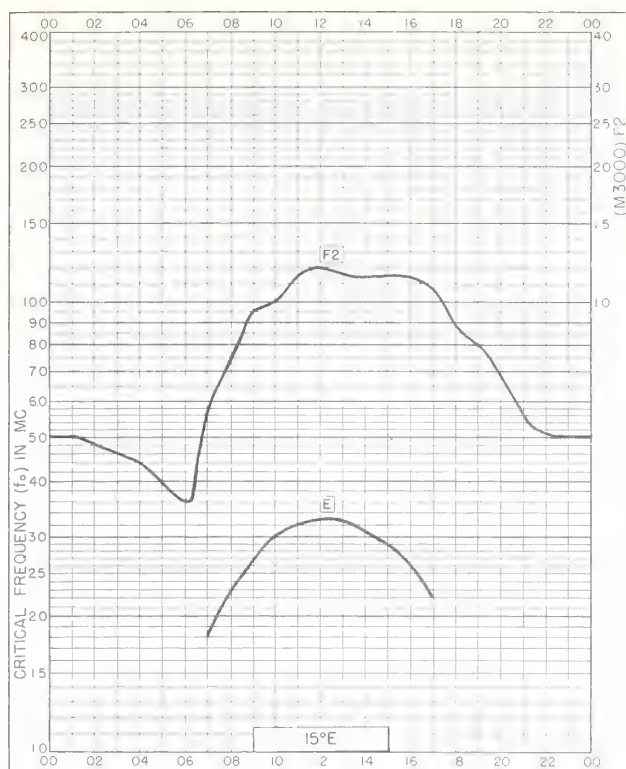


Fig. 37. GENOA (MONTE CAPELLINO), ITALY  
44.6°N, 9.0°E OCTOBER 1960

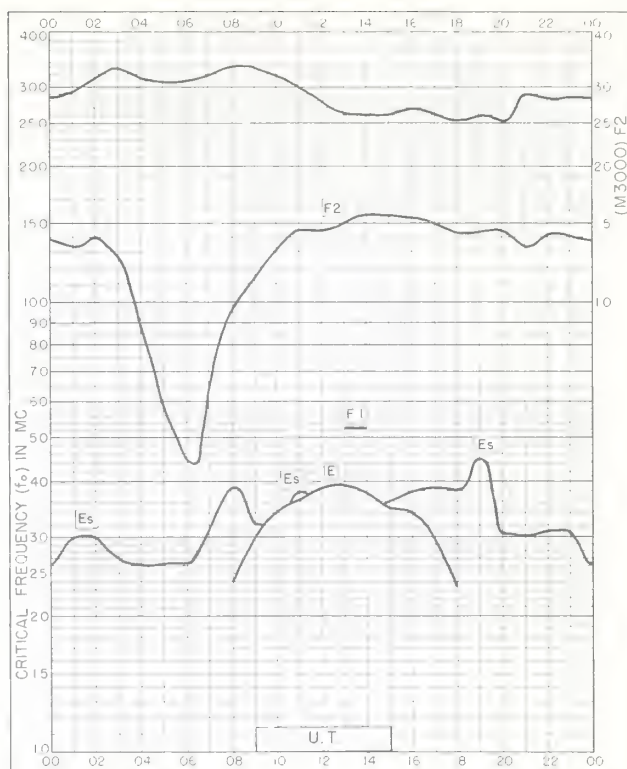


Fig. 38. DAKAR, FRENCH W. AFRICA  
14.8°N, 17.4°W OCTOBER 1960

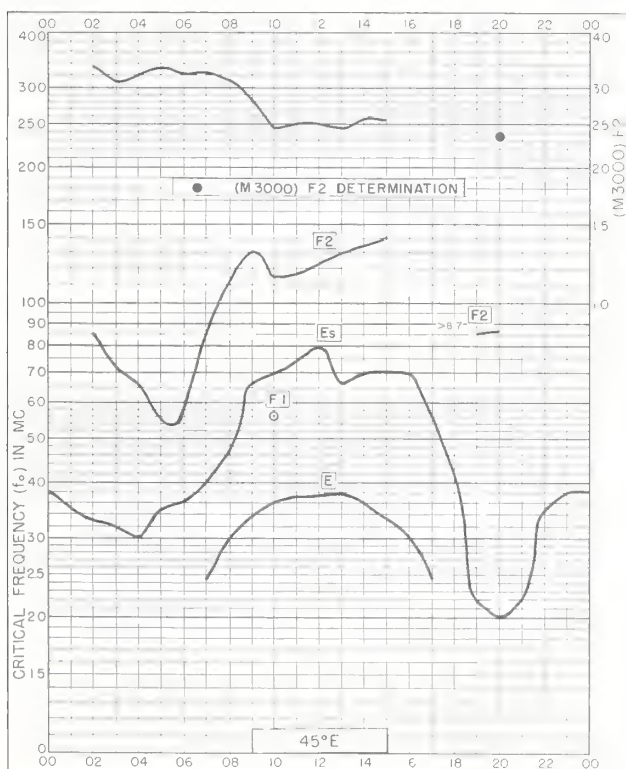


Fig. 39. DJIBOUTI, FRENCH SOMALILAND  
11.6°N, 43.2°E OCTOBER 1960

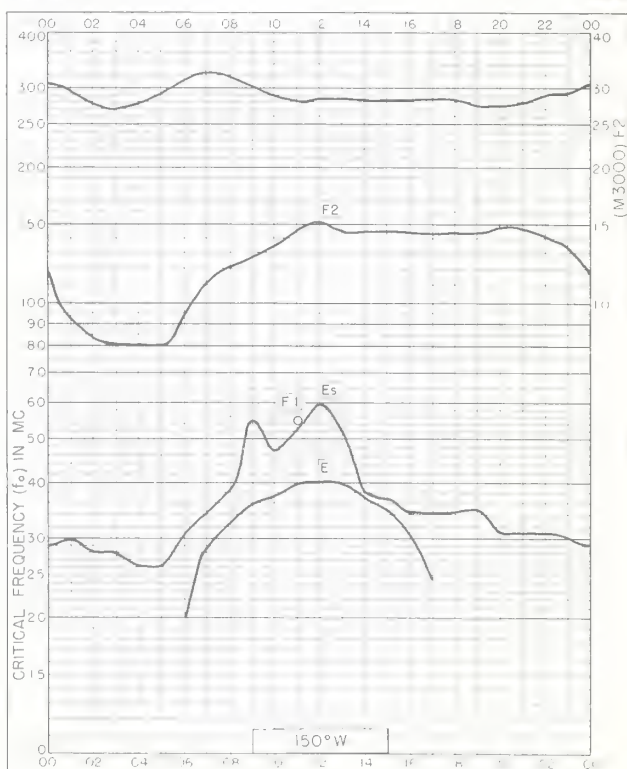


Fig. 40. TAHITI, SOCIETY IS.  
17.7°S, 149.3°W OCTOBER 1960



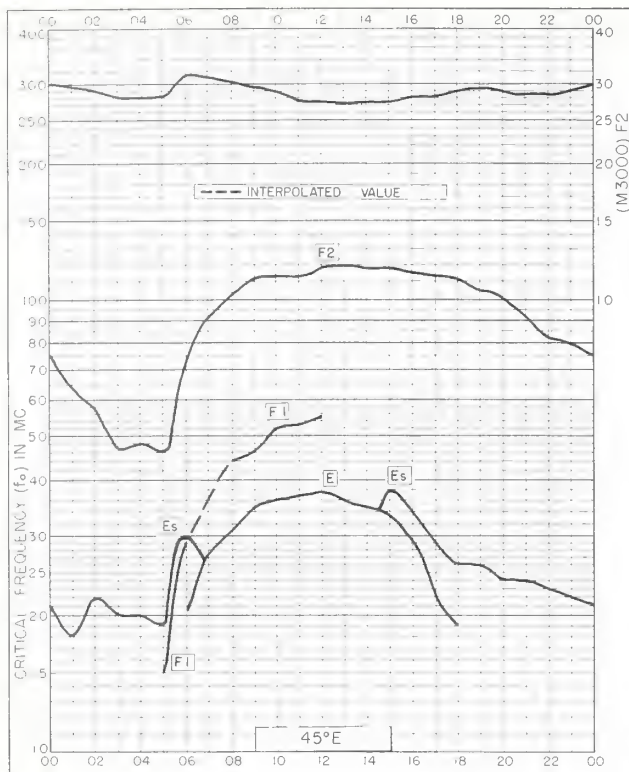


Fig. 41. TANANARIVE, MADAGASCAR  
18.8°S, 47.5°E OCTOBER 1960

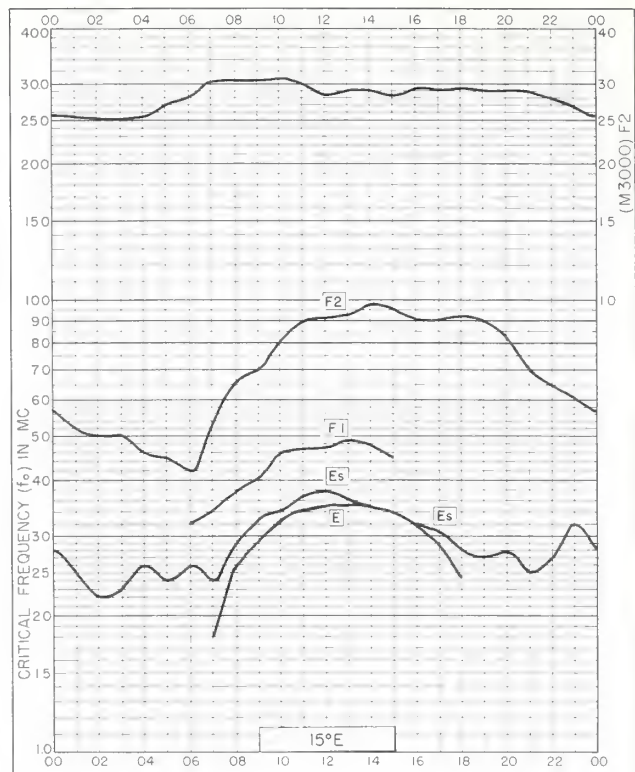


Fig. 42. PARIS, FRANCE  
48.1°N, 2.3°E SEPTEMBER 1960

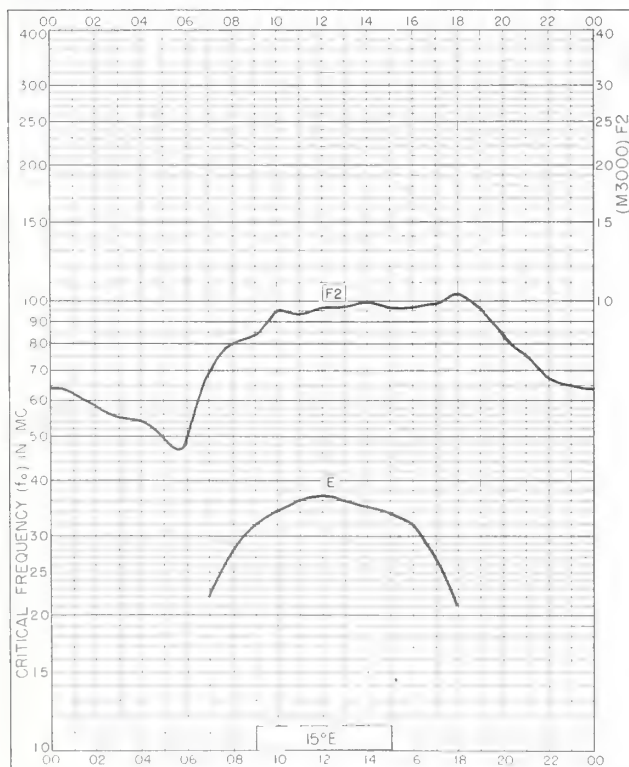


Fig. 43. GENOA (MONTE CAPELLINO), ITALY  
44.6°N, 9.0°E SEPTEMBER 1960

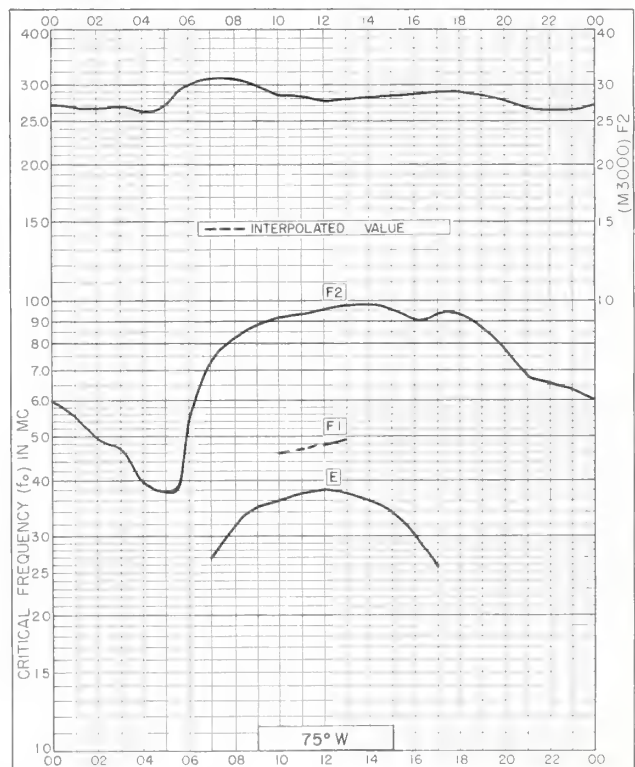


Fig. 44. FORT MONMOUTH, NEW JERSEY  
40.4°N, 74.10°W SEPTEMBER 1960



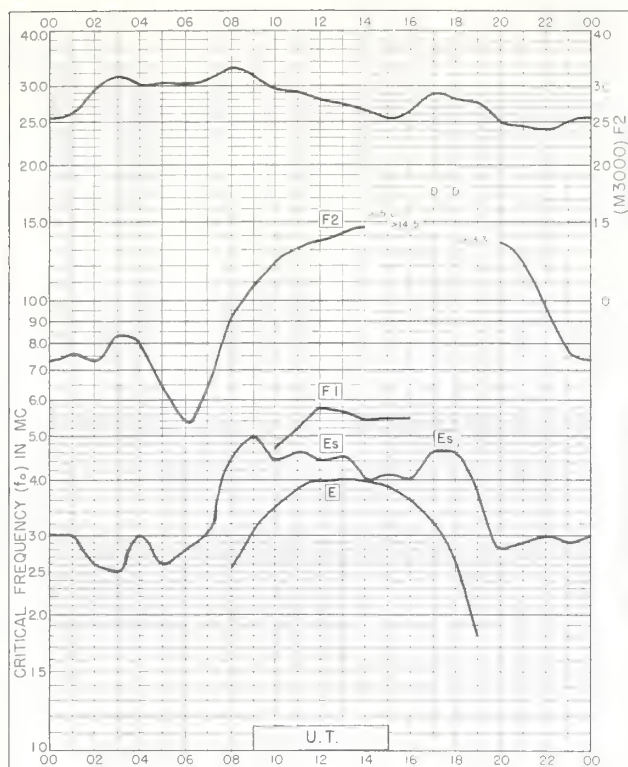


Fig. 45. DAKAR, FRENCH W. AFRICA  
14.8°N, 17.4°W SEPTEMBER 1960

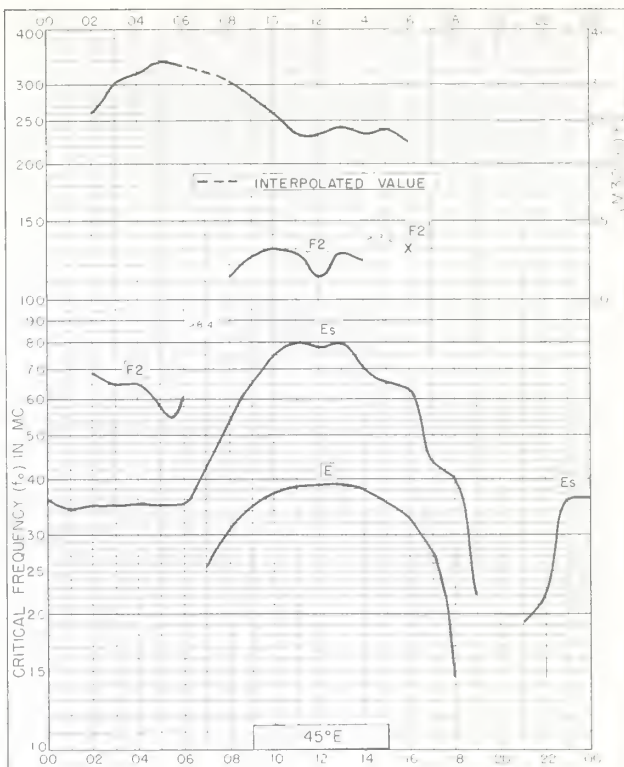


Fig. 46. DJIBOUTI, FRENCH SOMALILAND  
11.6°N, 43.2°E SEPTEMBER 1960

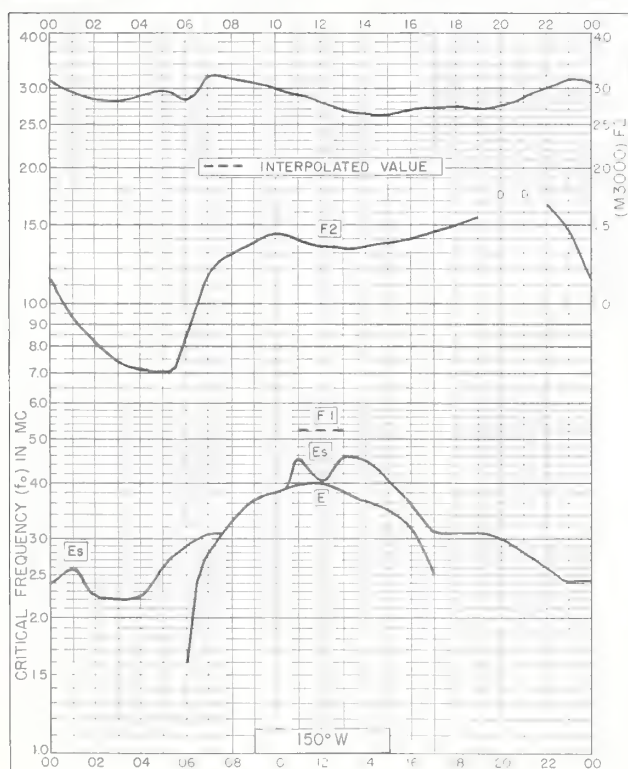


Fig. 47. TAHITI, SOCIETY IS.  
17.7°S, 149.3°W SEPTEMBER 1960

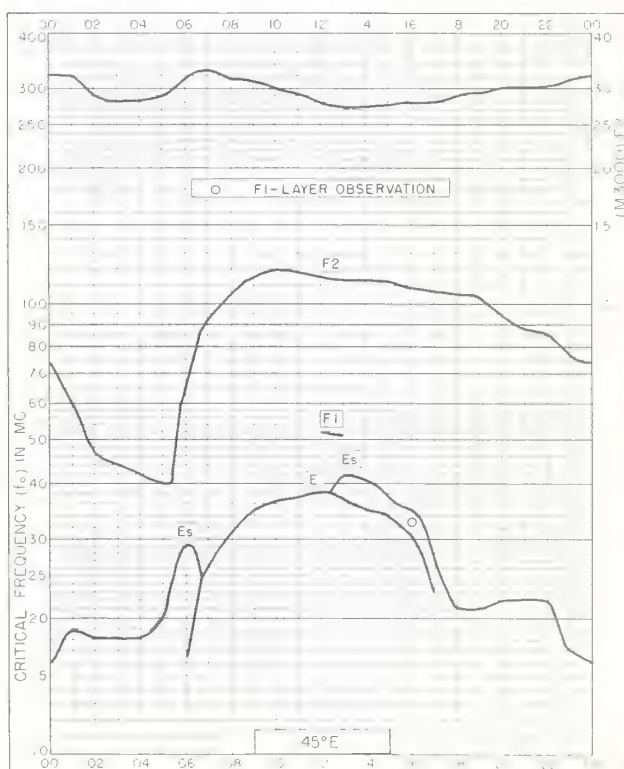
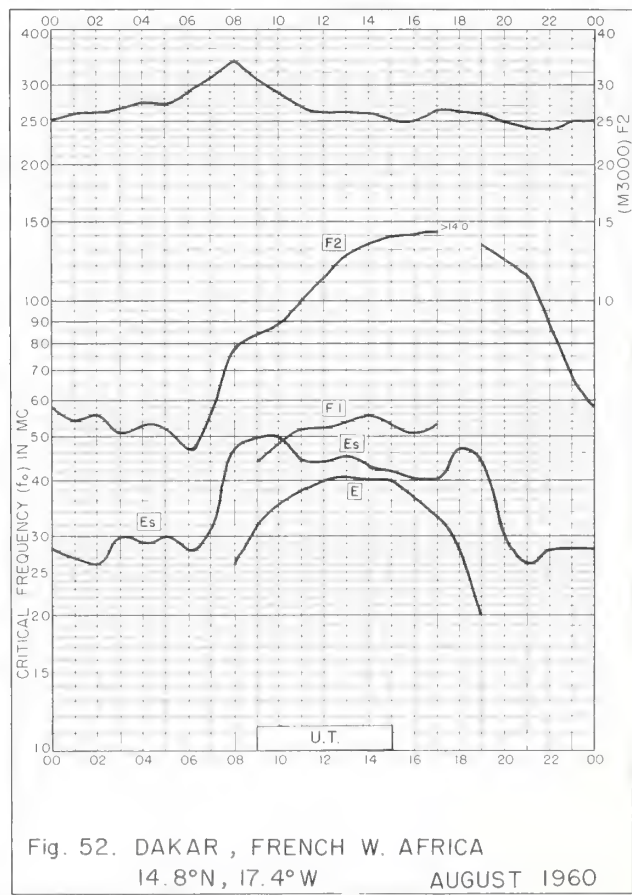
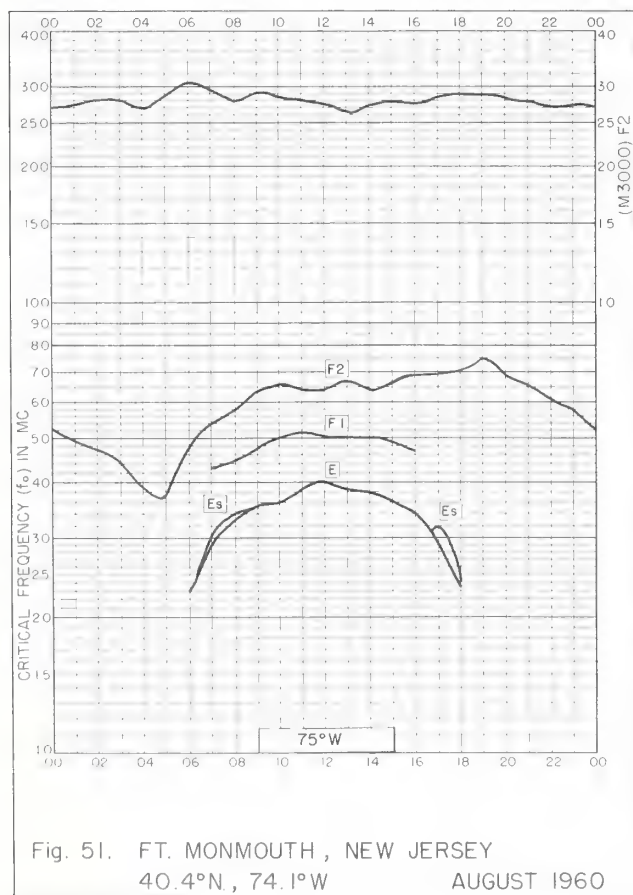
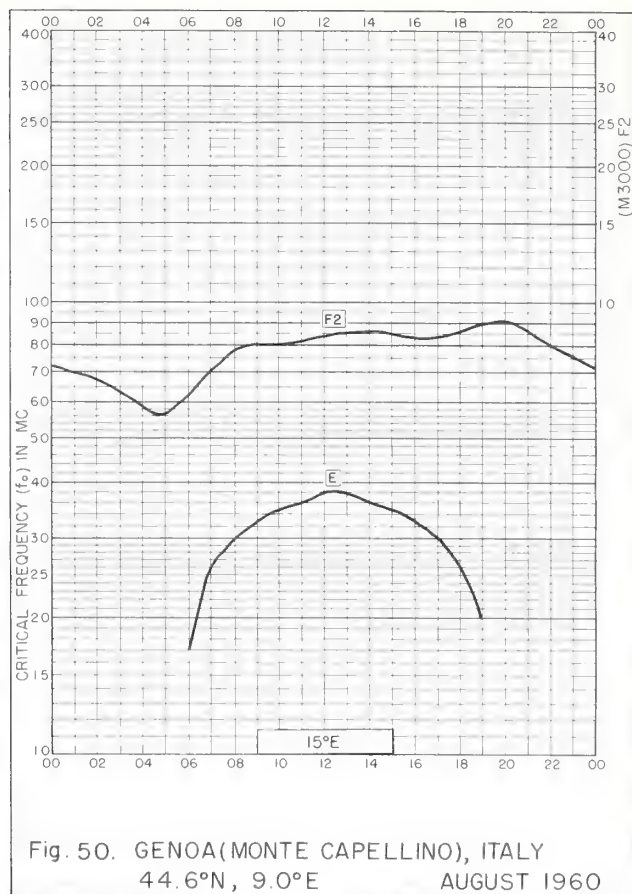
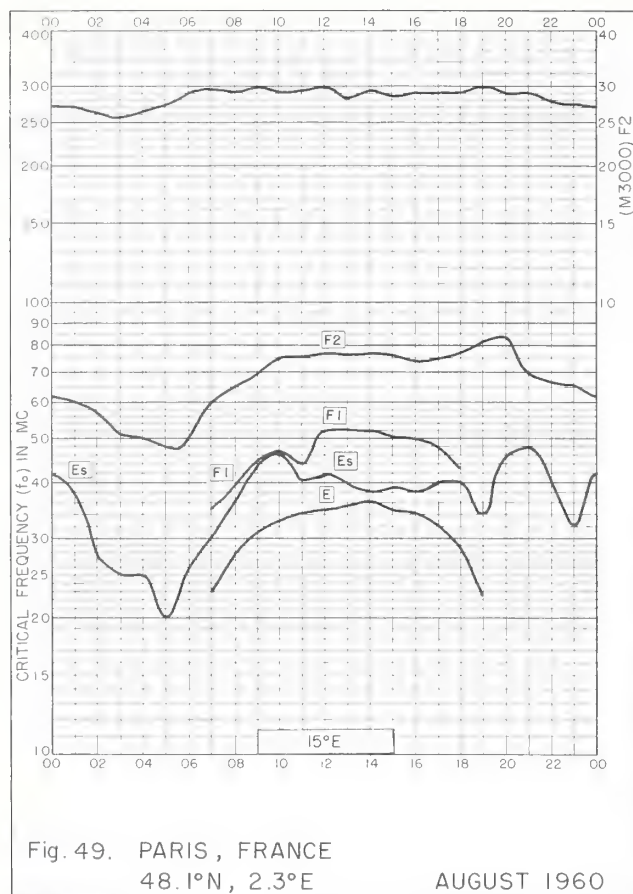


Fig. 48. TANANARIVE, MADAGASCAR  
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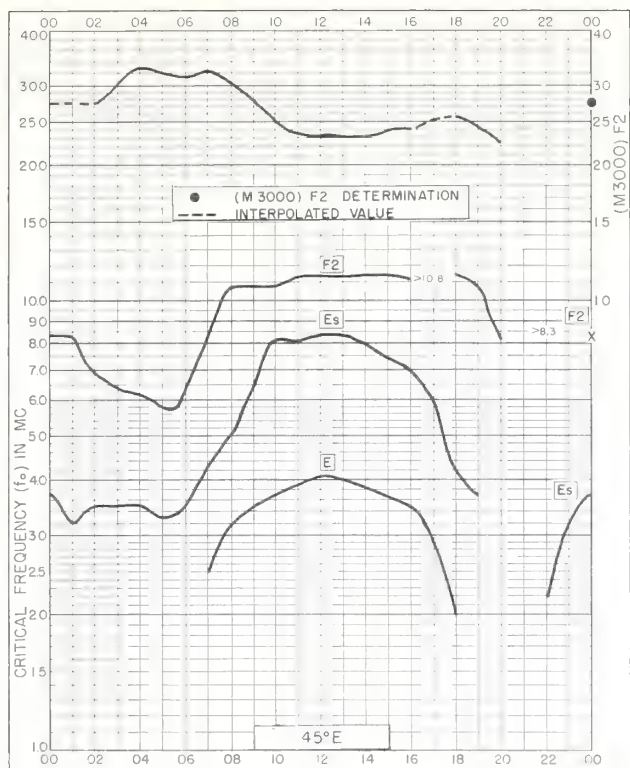


Fig. 53. DJIBOUTI, FRENCH SOMALILAND  
11.6°N, 43.2°E  
AUGUST 1960

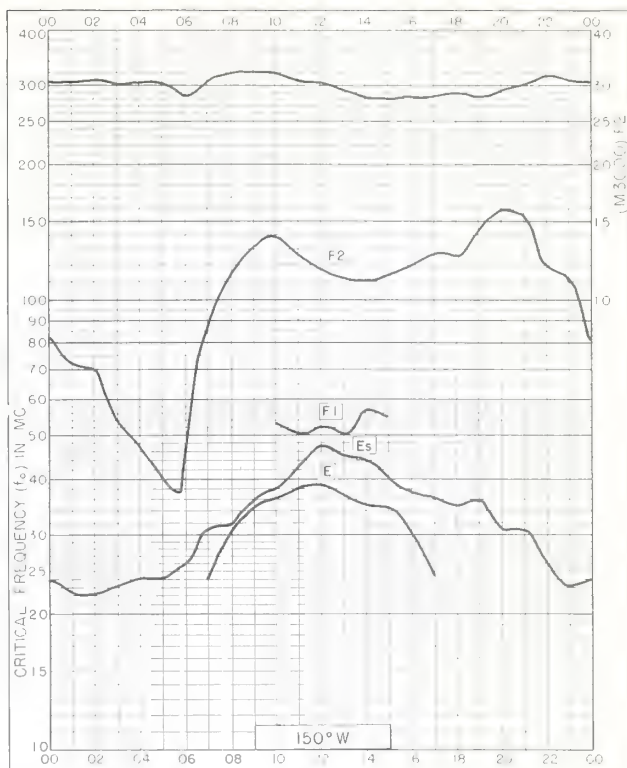


Fig. 54. TAHITI, SOCIETY IS.  
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AUGUST 1960

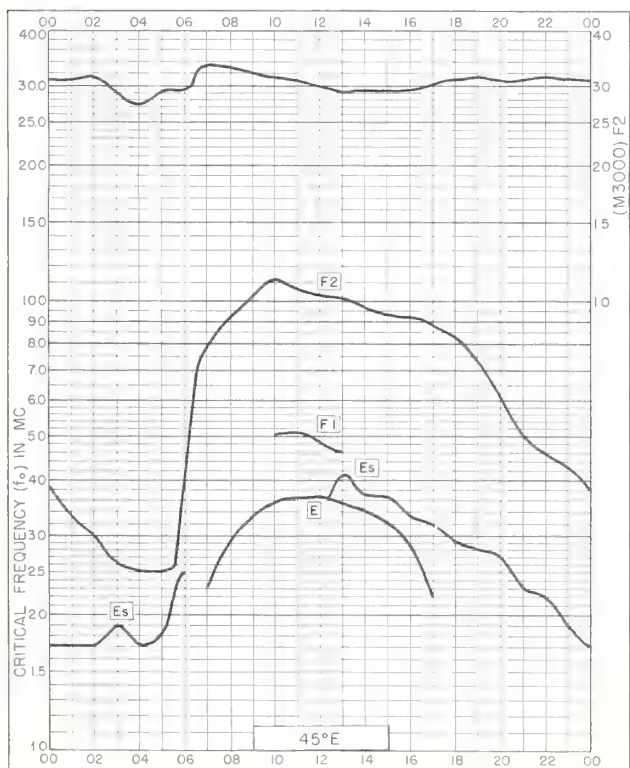


Fig. 55. TANANARIVE, MADAGASCAR  
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AUGUST 1960

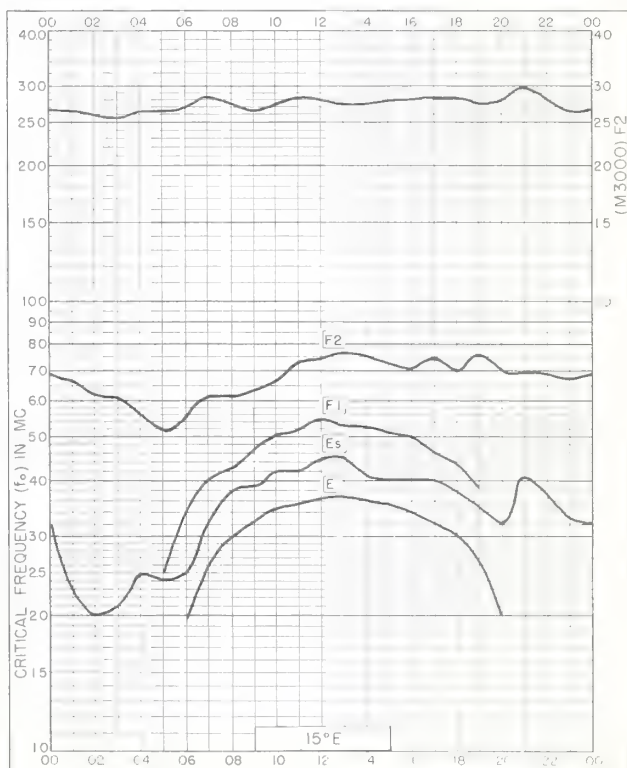


Fig. 56. PARIS, FRANCE  
48.1°N, 2.3°E  
JULY 1960



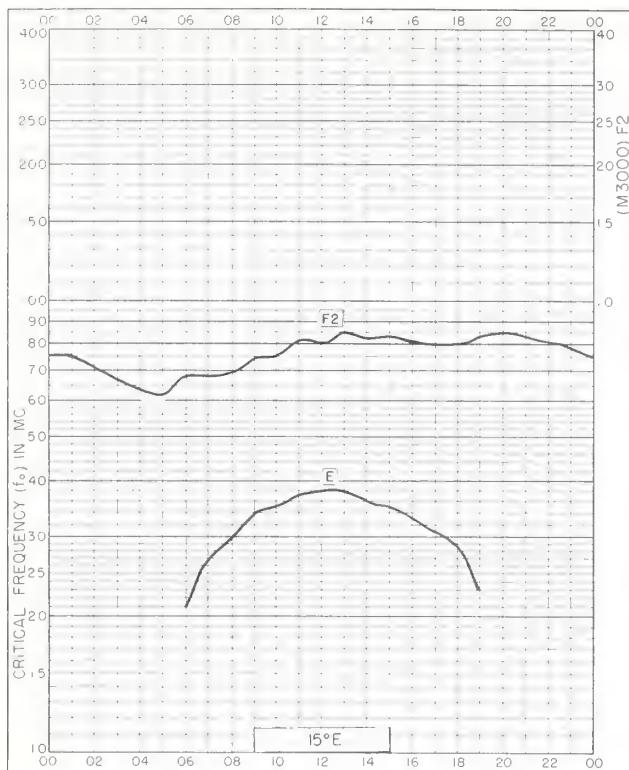


Fig. 57. GENOA (MONTE CAPELLINO), ITALY  
44.6°N, 9.0°E  
JULY 1960

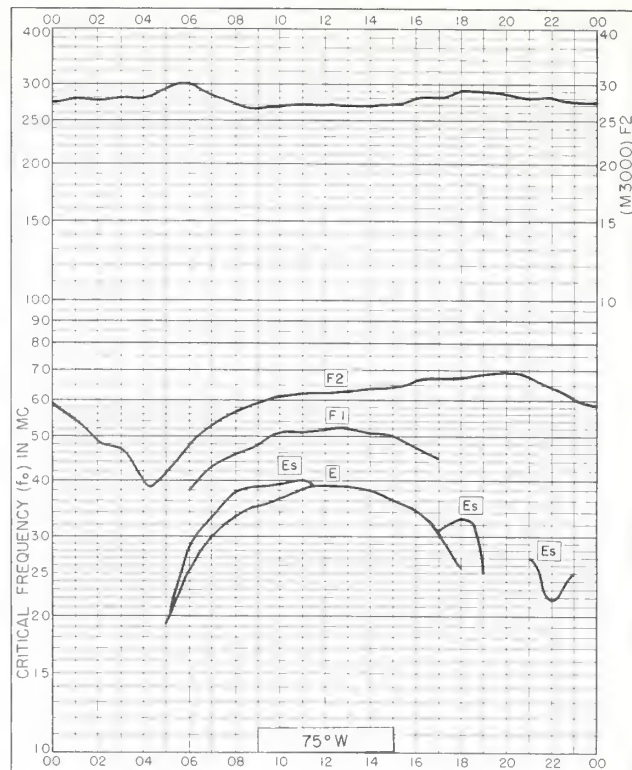


Fig. 58. FT. MONMOUTH, NEW JERSEY  
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JULY 1960

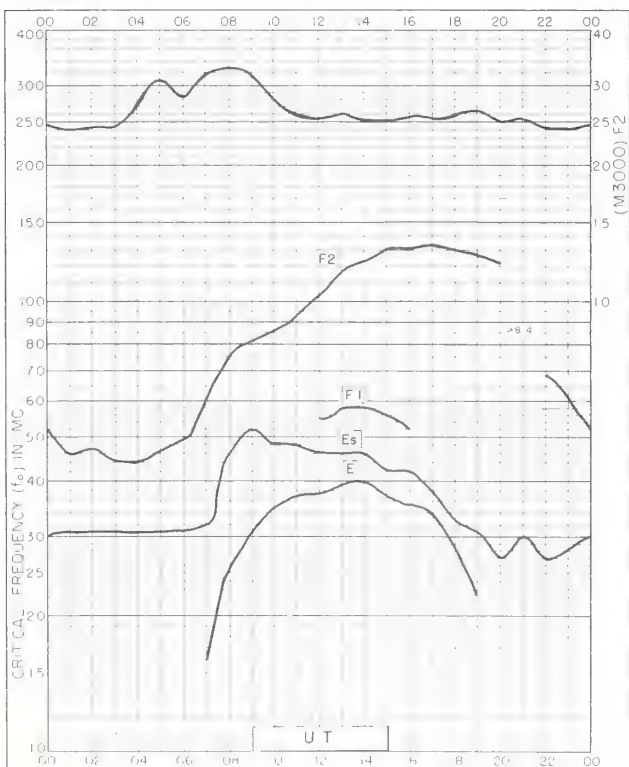


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JULY 1960

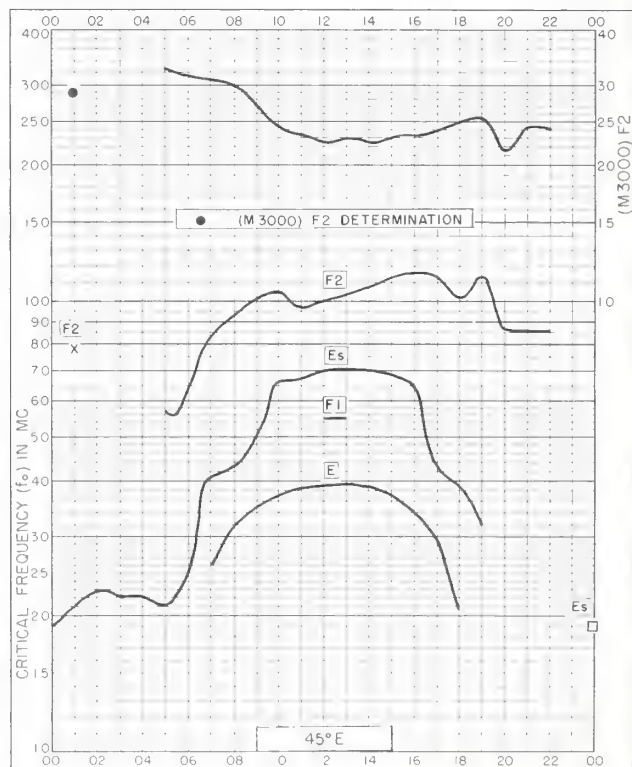


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JULY 1960



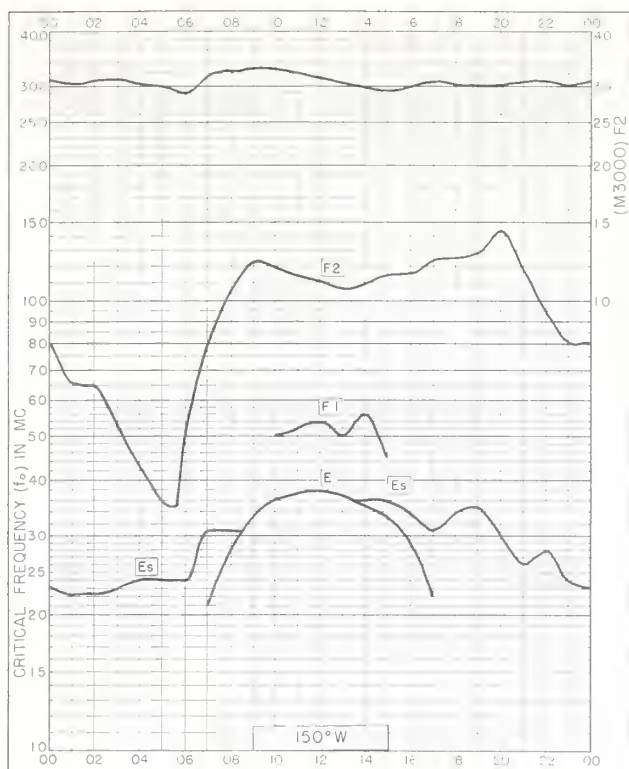


Fig. 61. TAHITI, SOCIETY IS.  
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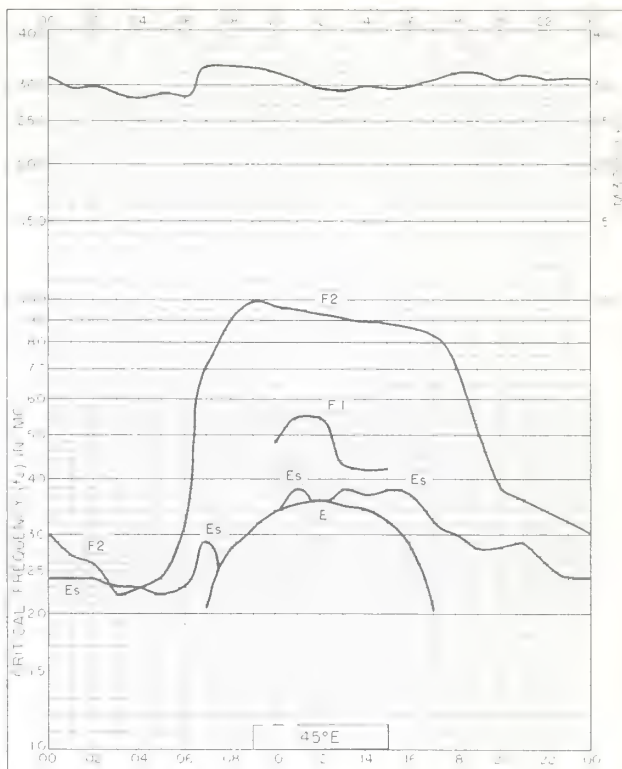


Fig. 62. TANANARIVE, MADAGASCAR  
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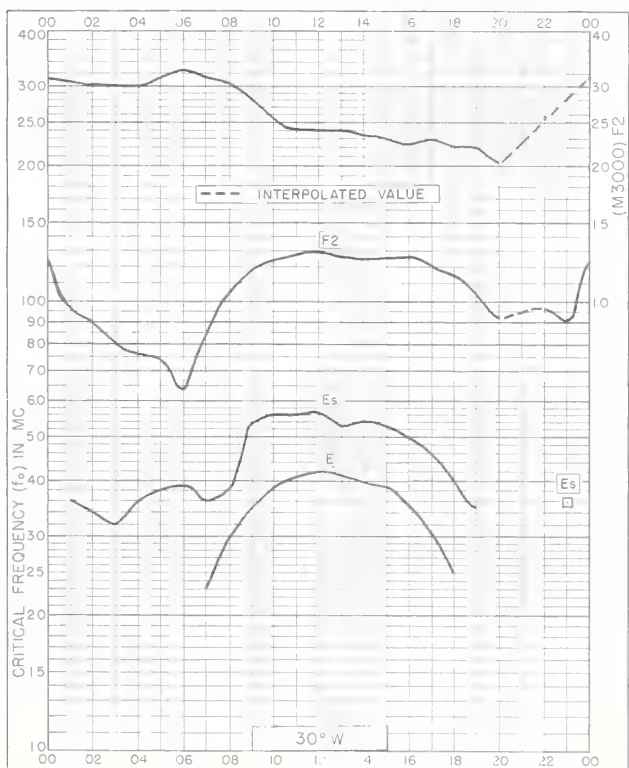


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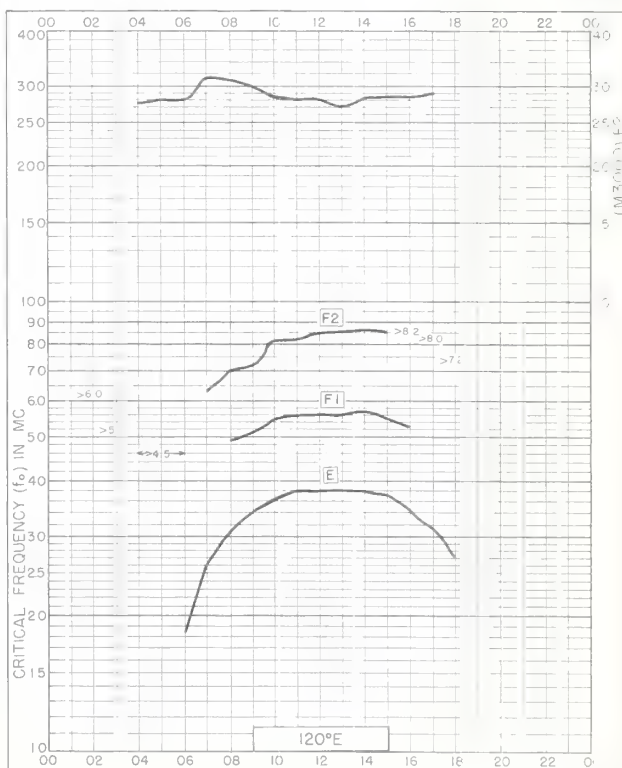


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FEBRUARY 1960

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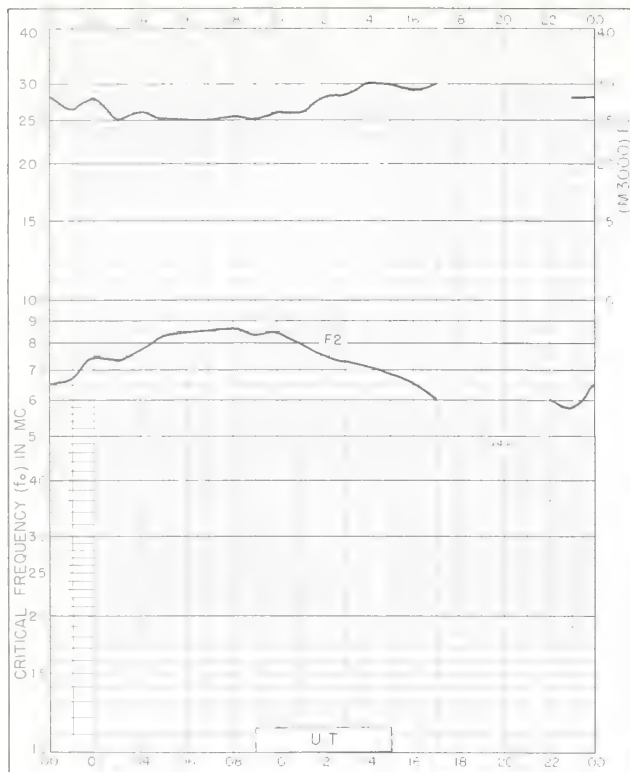


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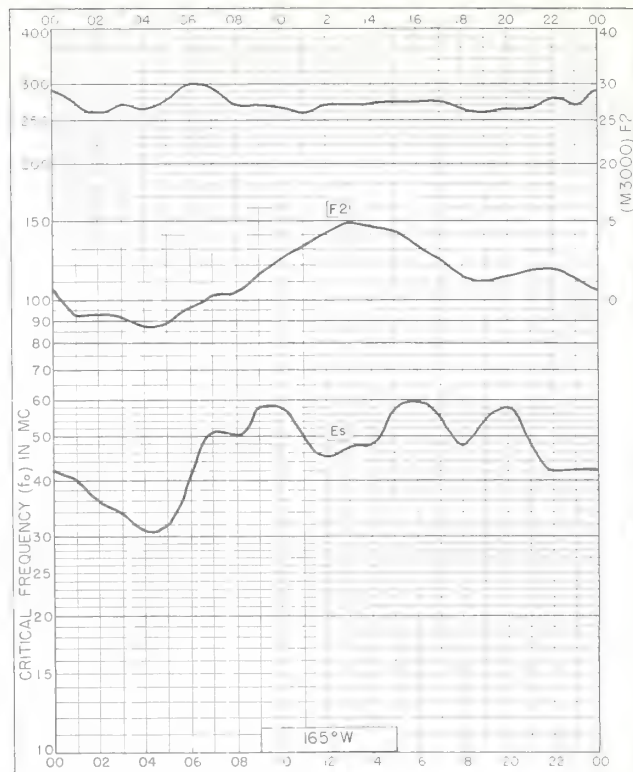


Fig.66. RAROTONGA I.  
21.2°S, 159.8°W DECEMBER 1959

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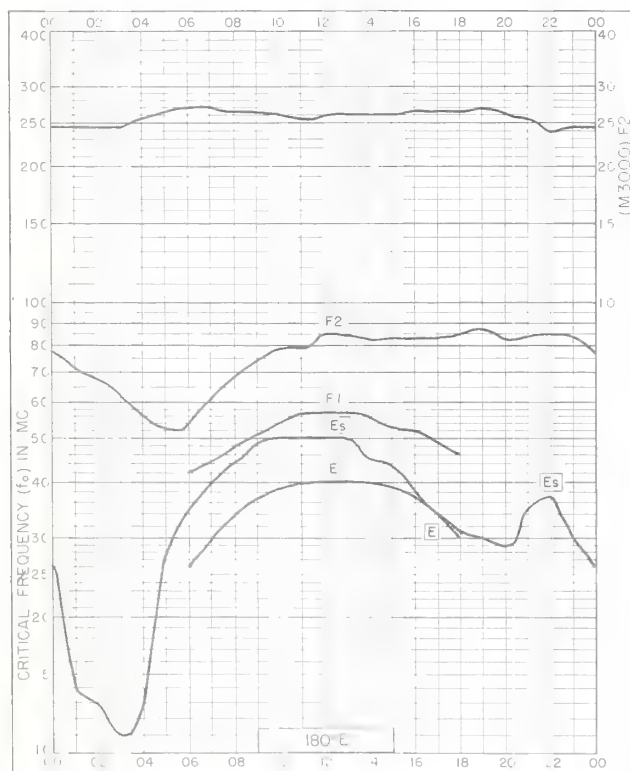


Fig 67 CHRISTCHURCH, NEW ZEALAND  
43.6°S, 172.8°E DECEMBER 1959

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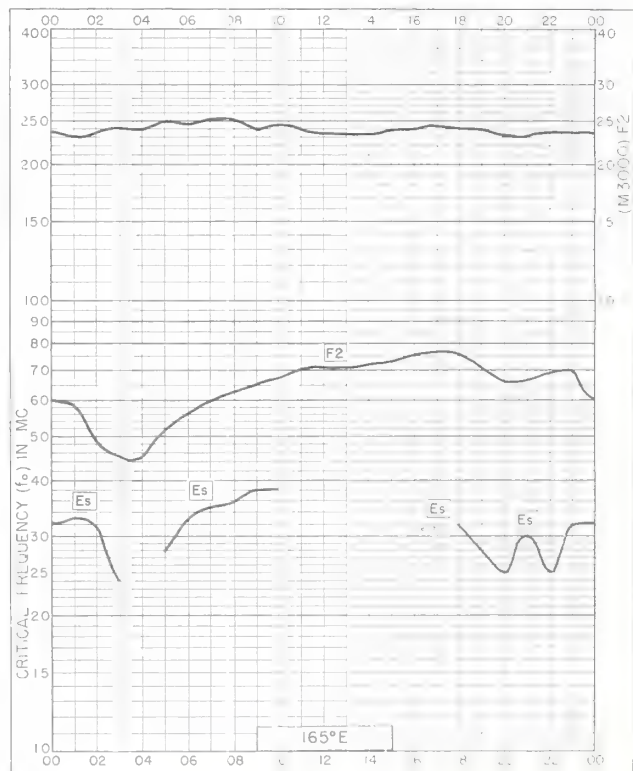


Fig.68. CAMPBELL I.  
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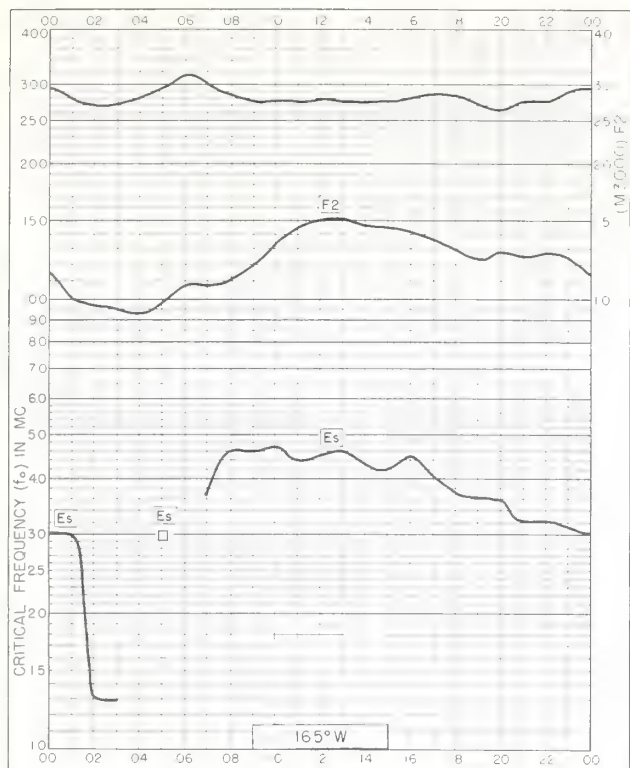


Fig. 69. RAROTONGA I  
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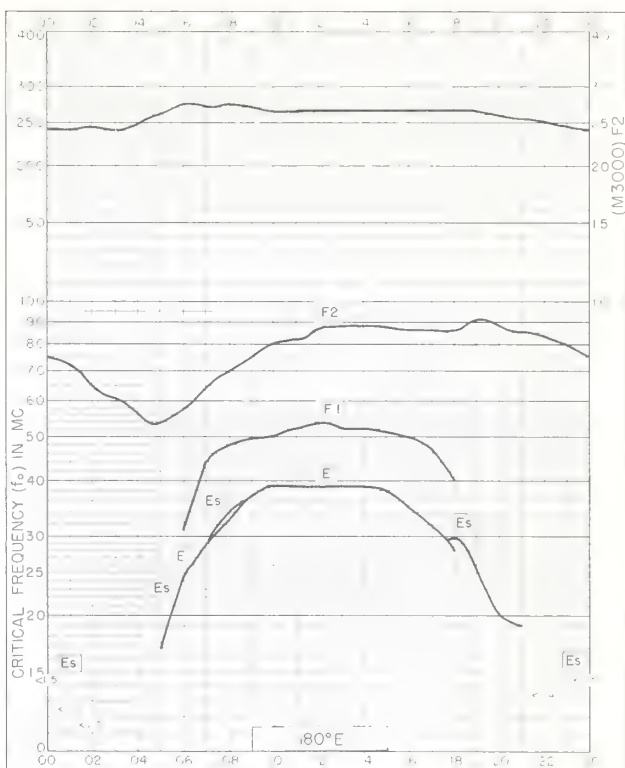


Fig. 70. CHRISTCHURCH, NEW ZEALAND  
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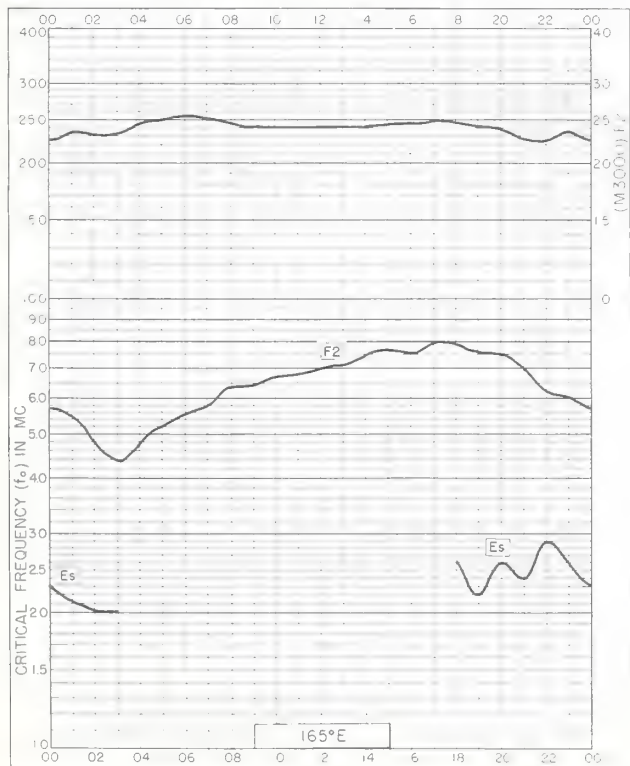


Fig. 71. CAMPBELL I.  
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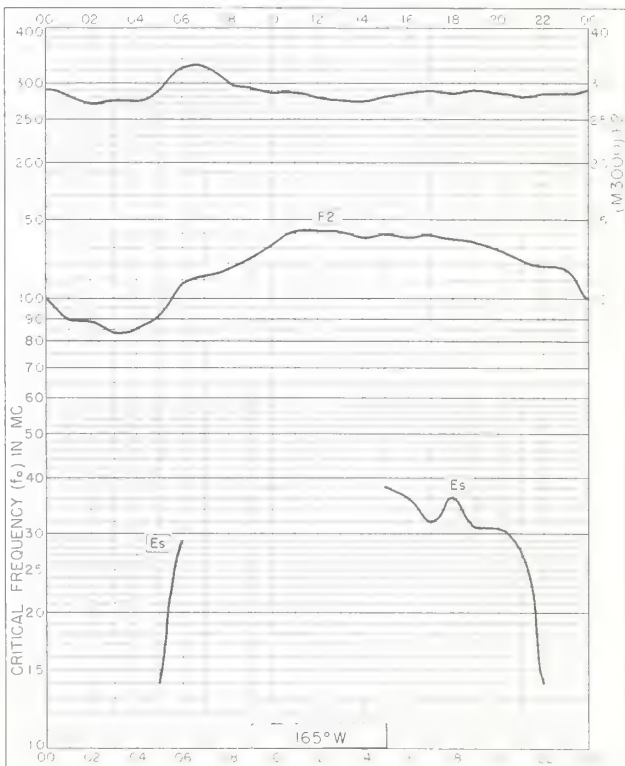


Fig. 72. RAROTONGA I.  
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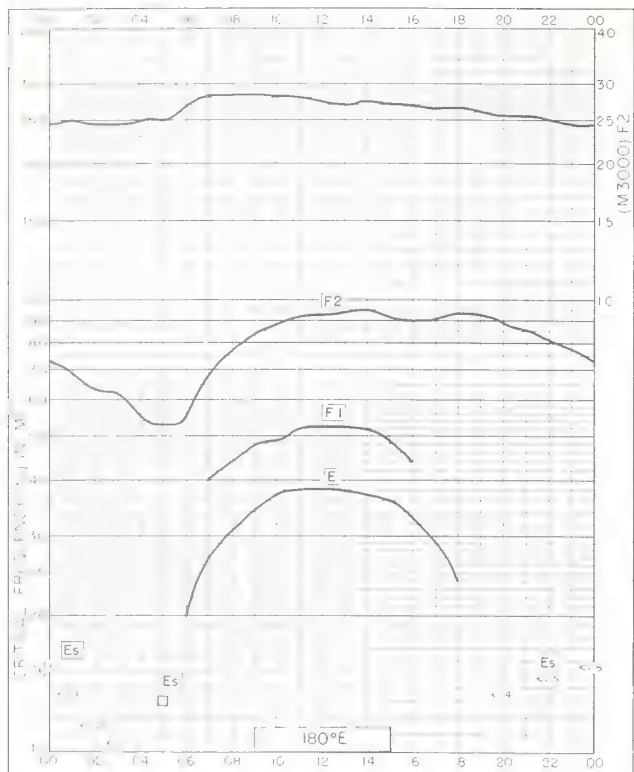


Fig. 73. CHRISTCHURCH, NEW ZEALAND  
43.6°S, 172.8°E  
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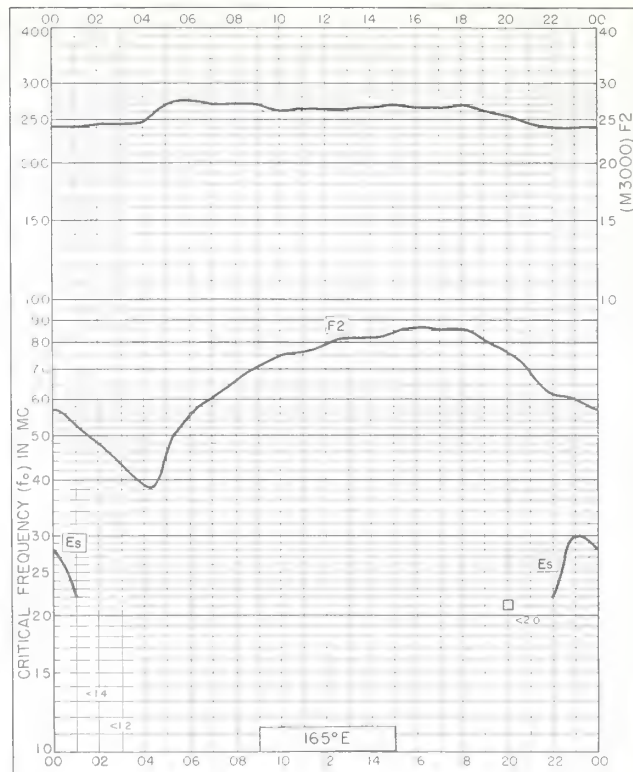


Fig. 74. CAMPBELL I.  
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OCTOBER 1959

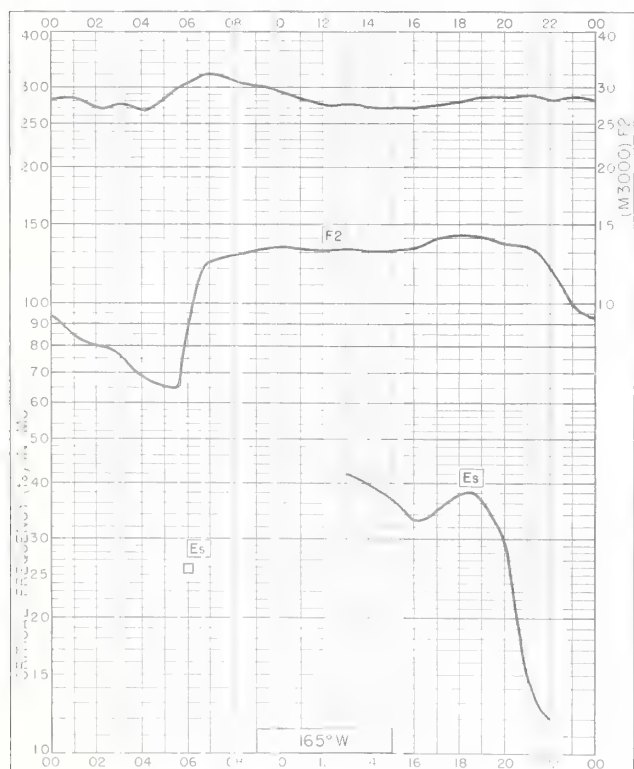


Fig 75. RAROTONGA I.  
21.2°S, 159.8°W  
SEPTEMBER 1959

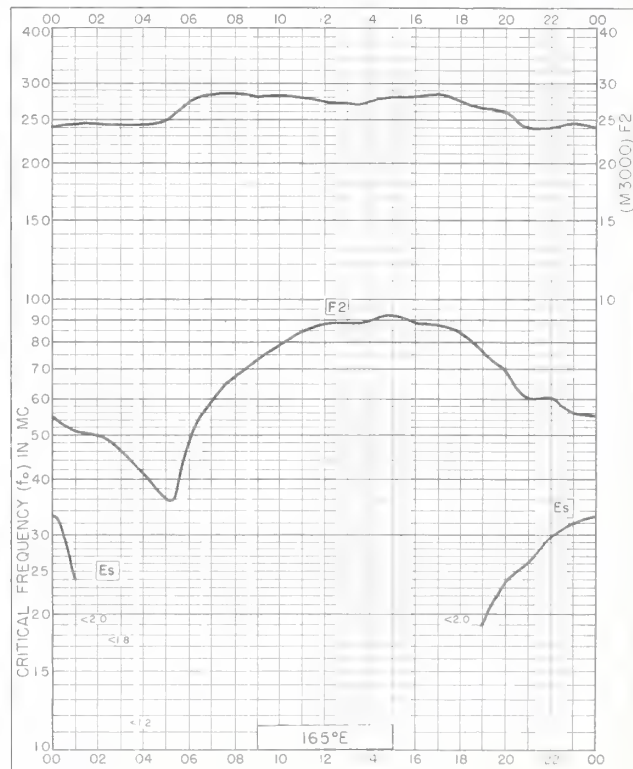


Fig. 76. CAMPBELL I.  
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SEPTEMBER 1959



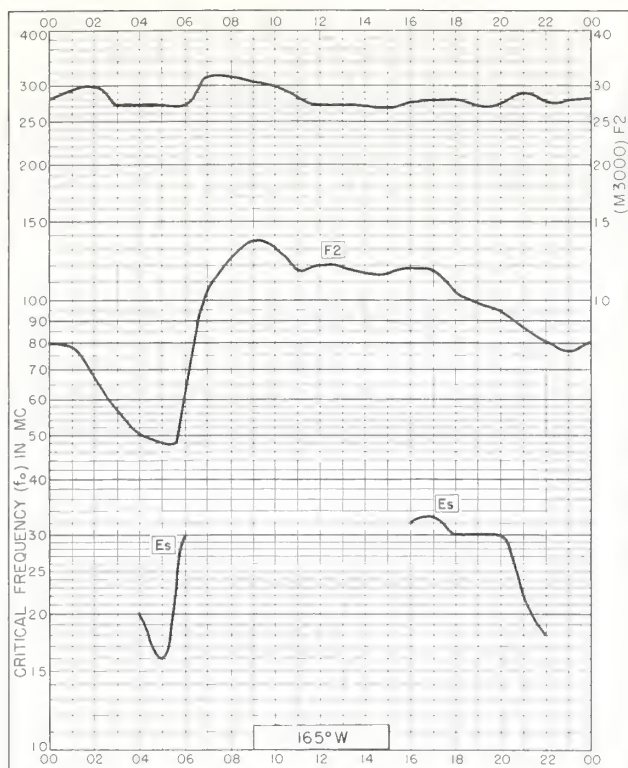


Fig. 77. RAROTONGA I.  
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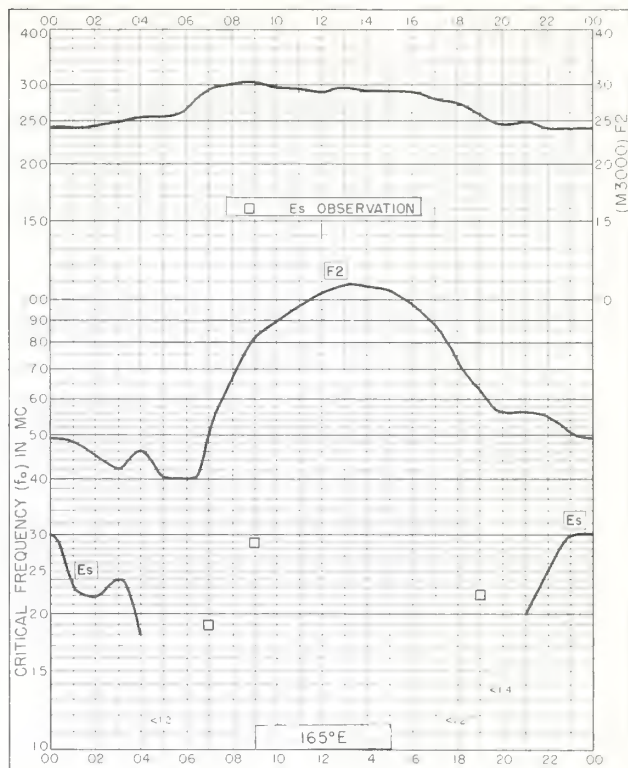


Fig. 78. CAMPBELL I.  
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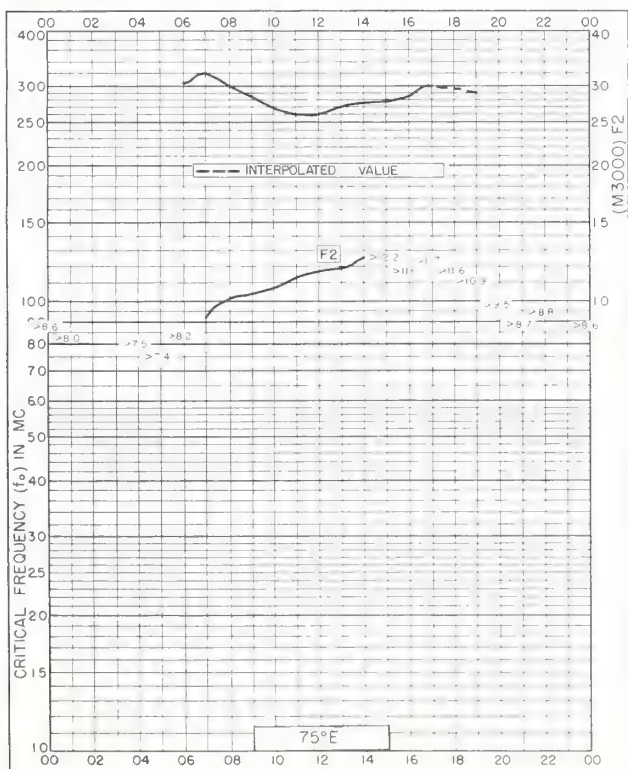


Fig. 79. DELHI, INDIA  
28.6°N, 77.2°E

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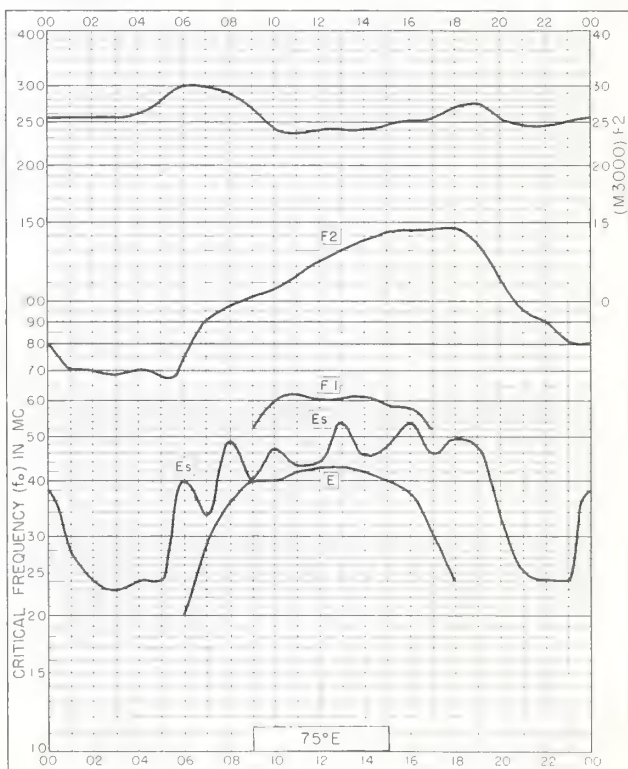


Fig. 80. AHMEDABAD, INDIA  
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JULY 1959

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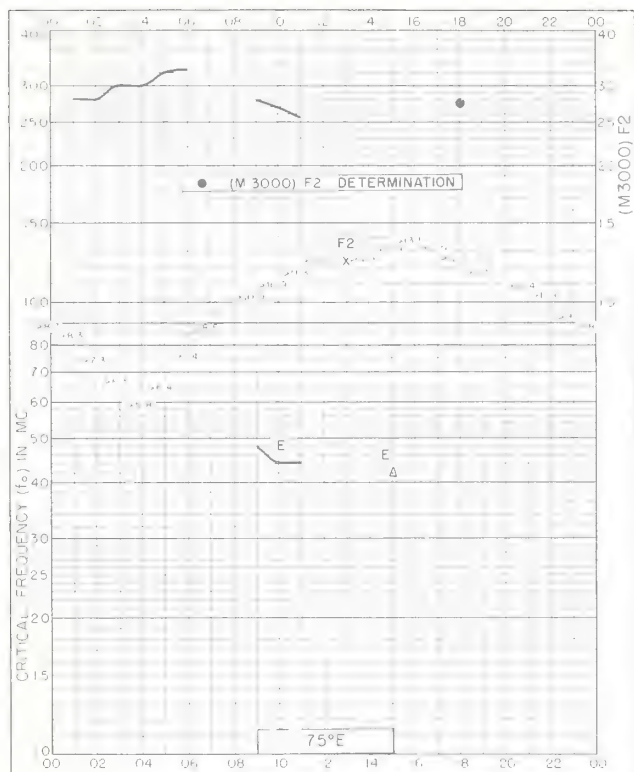


Fig.81. BOMBAY, INDIA  
19.0°N, 72.8°E

JULY 1959

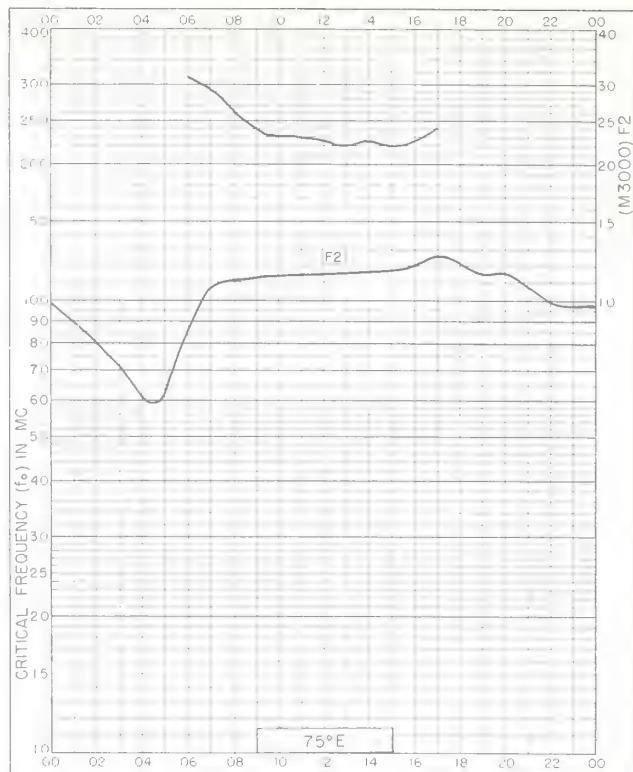


Fig.82. MADRAS, INDIA  
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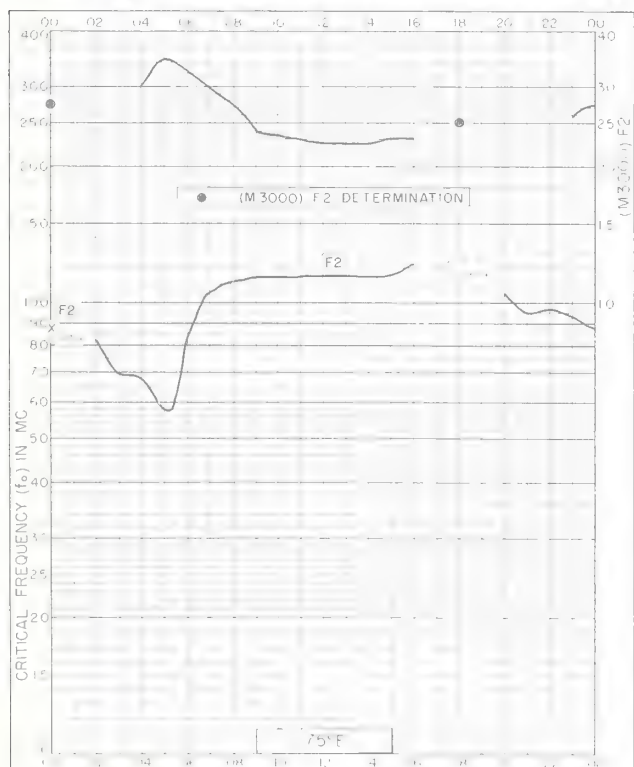


Fig.83. TIRUCHY, INDIA  
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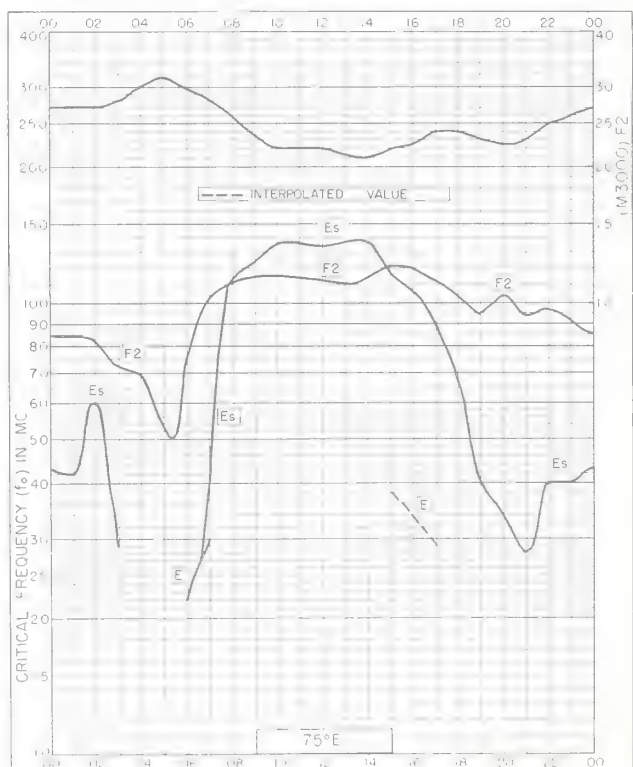


Fig.84. KODIAKANAL, INDIA  
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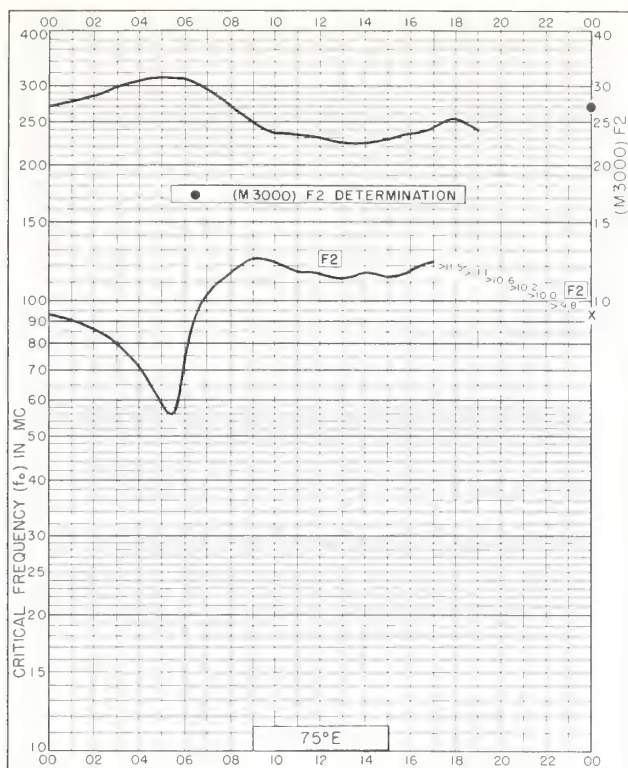


Fig. 85. TRIVANDRUM, INDIA  
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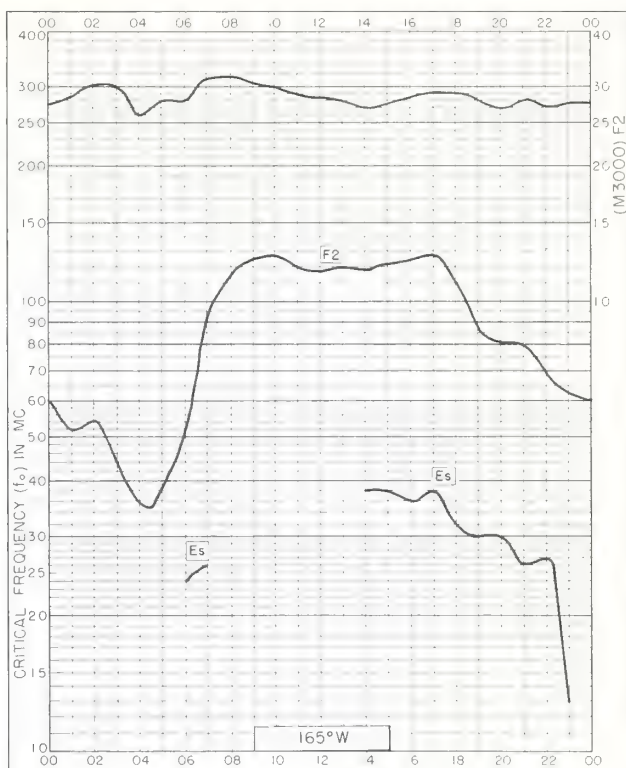


Fig. 86. RAROTONGA I.  
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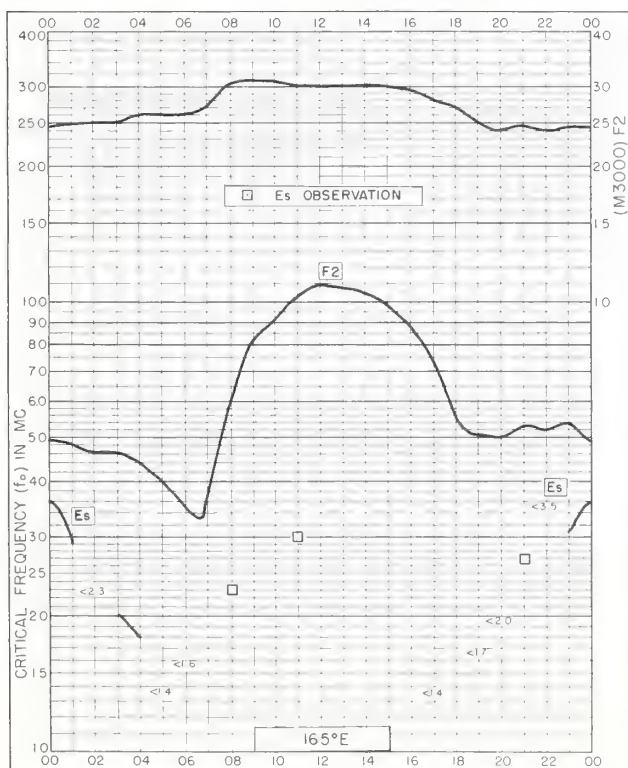


Fig. 87. CAMPBELL I.  
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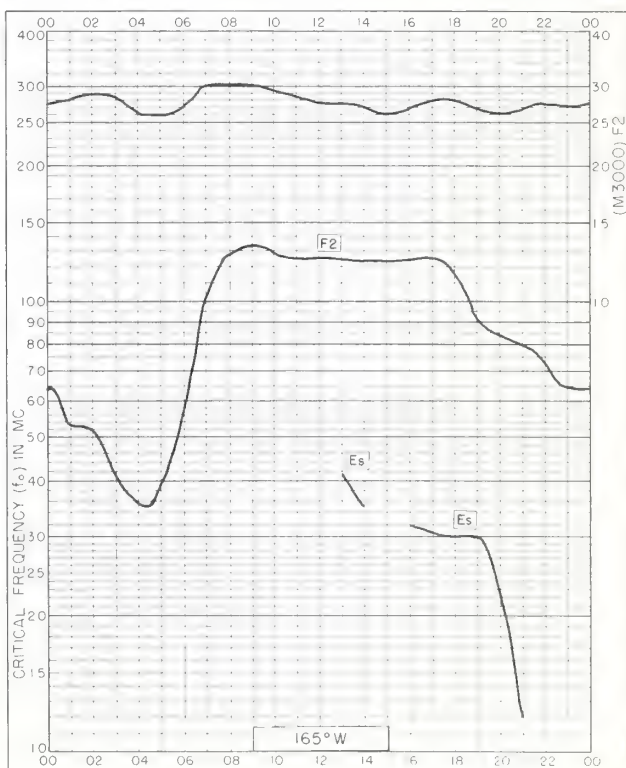


Fig. 88. RAROTONGA I.  
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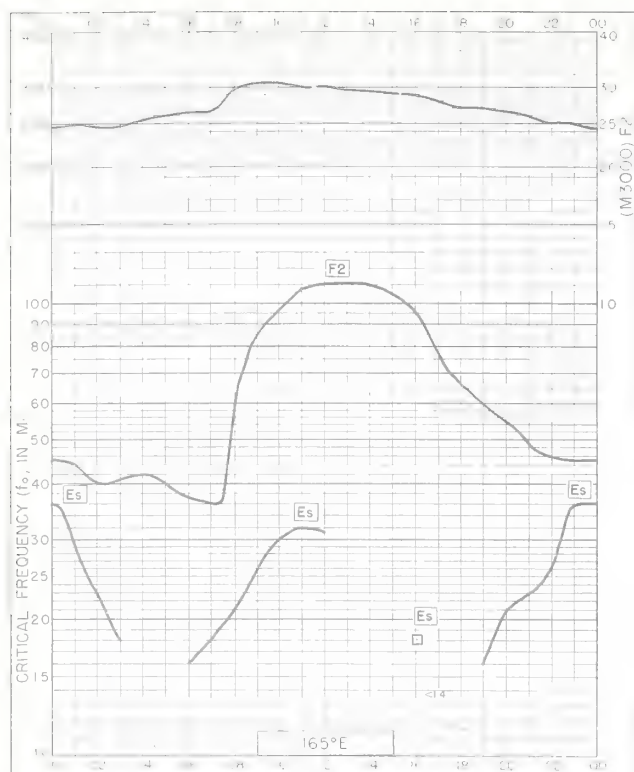


Fig. 89. CAMPBELL I.  
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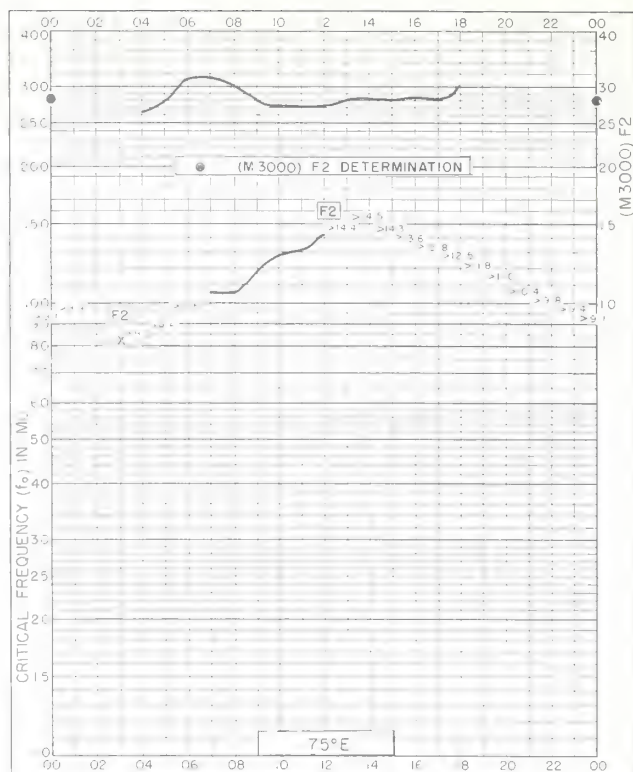


Fig. 90. DELHI, INDIA  
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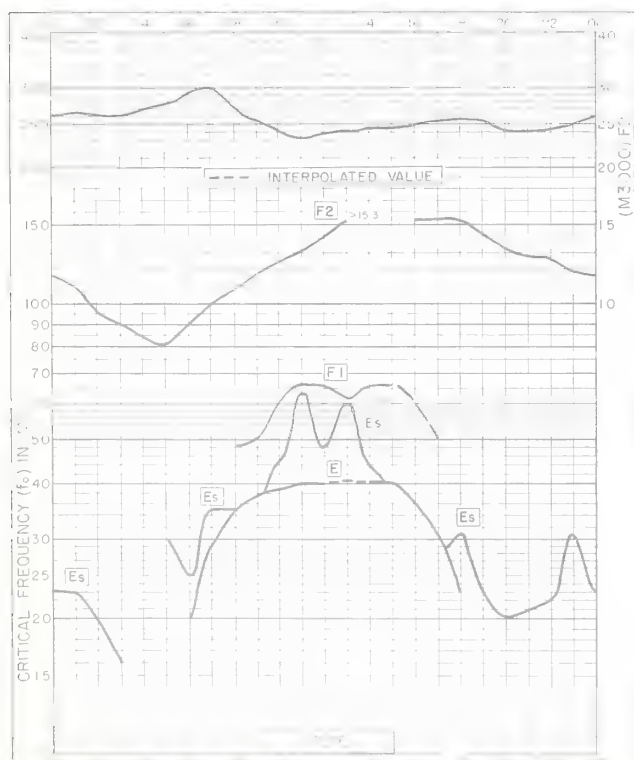


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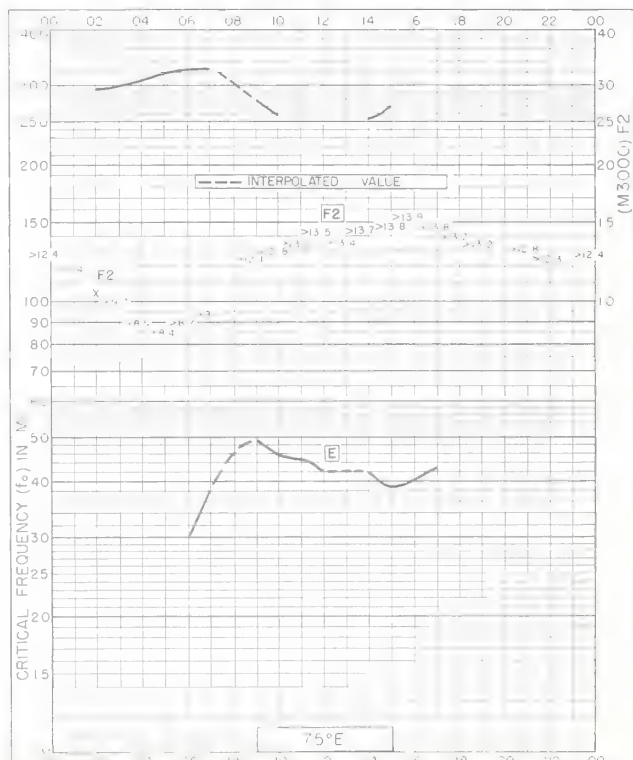


Fig. 92. BOMBAY, INDIA  
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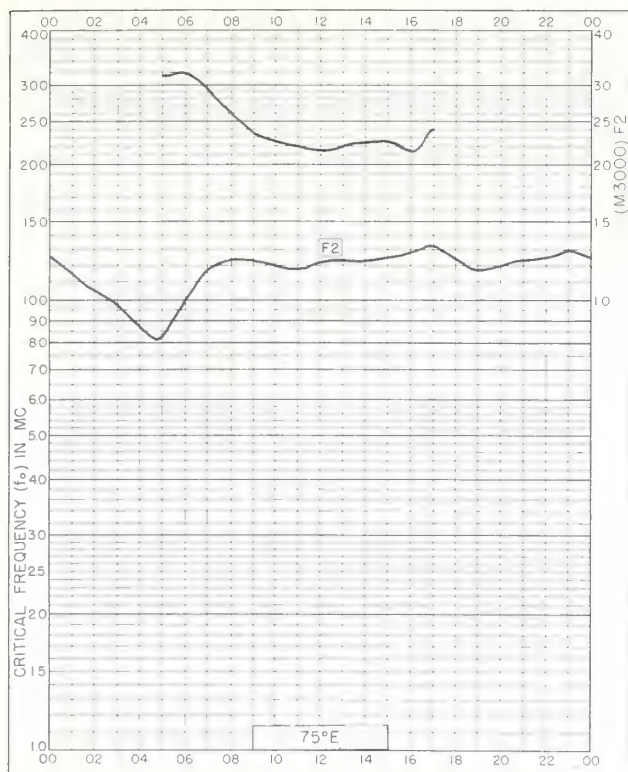


Fig. 93. MADRAS, INDIA  
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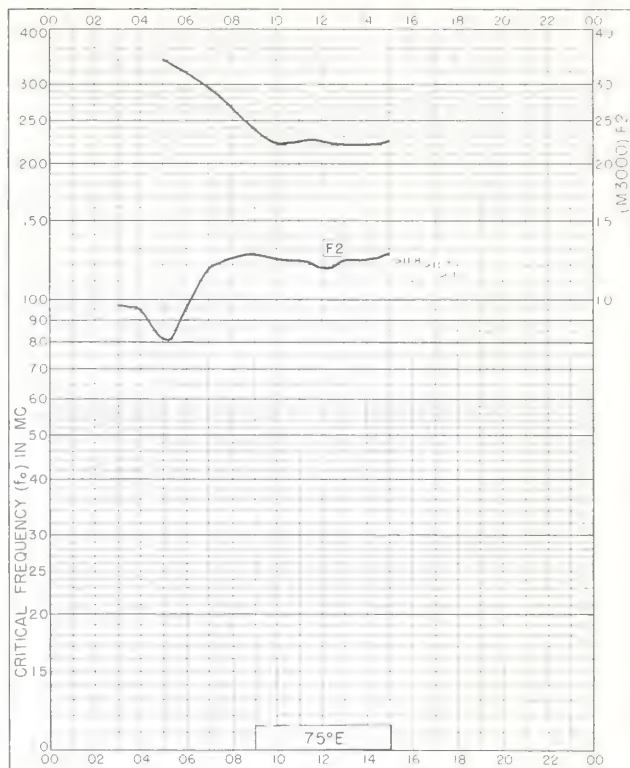


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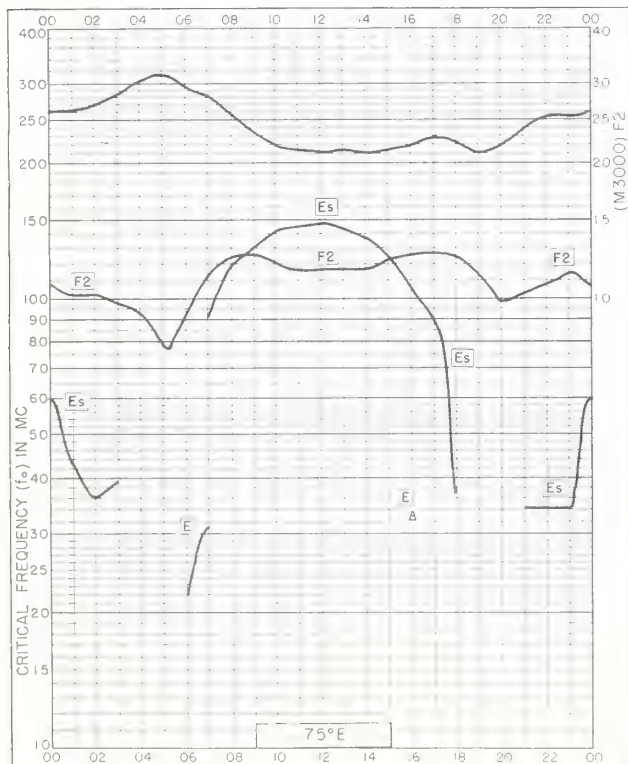


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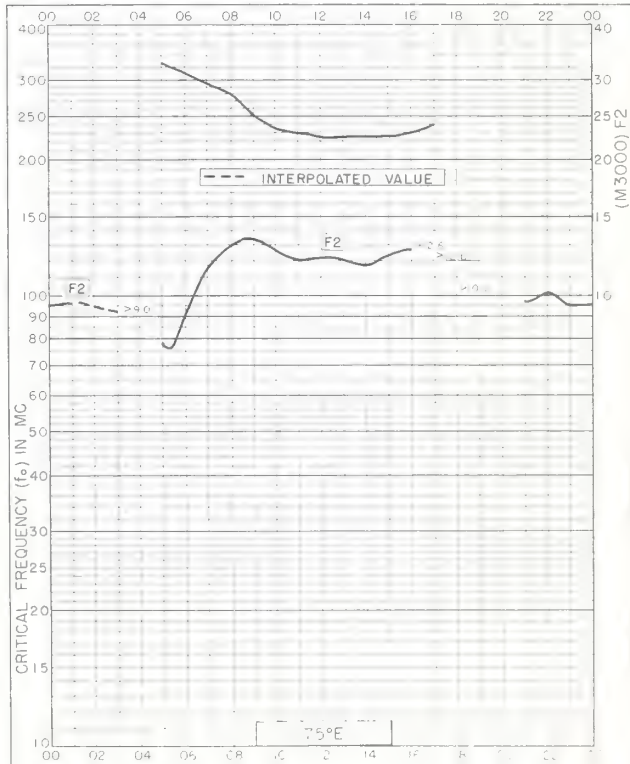


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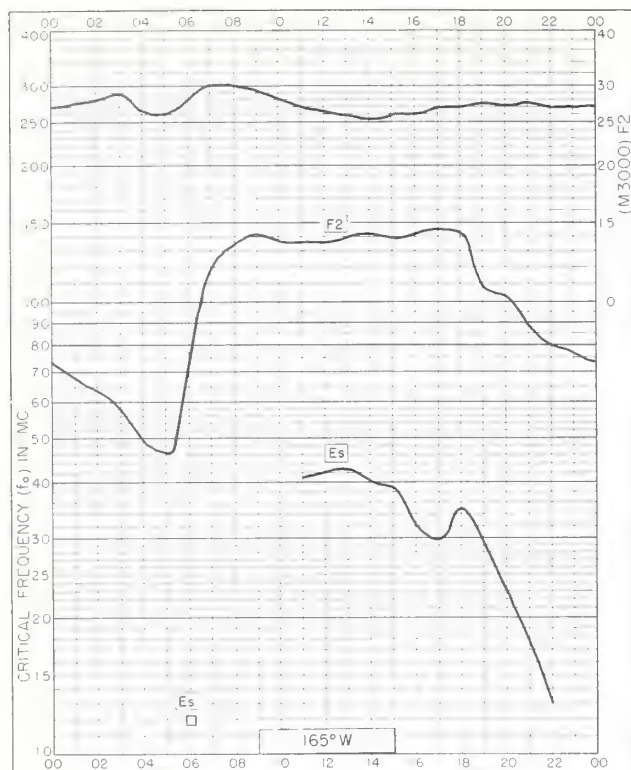


Fig. 97. RAROTONGA I.  
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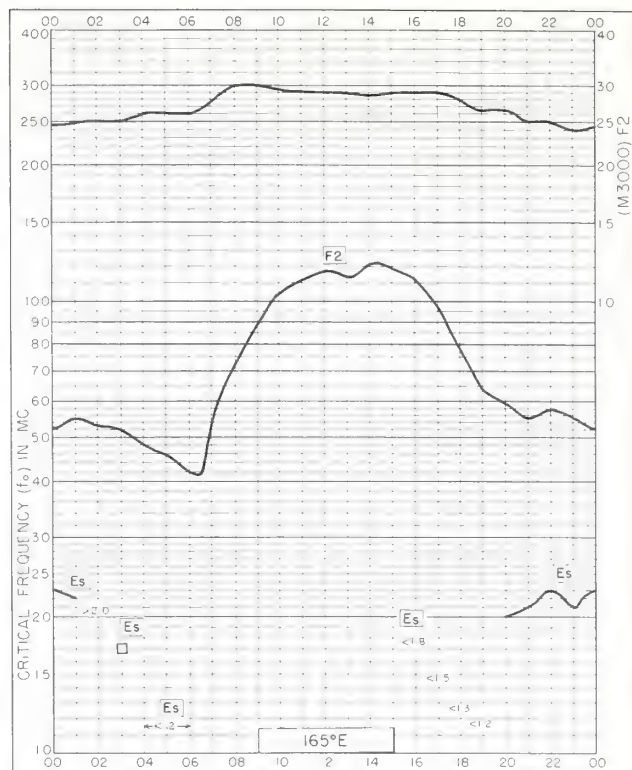


Fig. 98. CAMPBELL I.  
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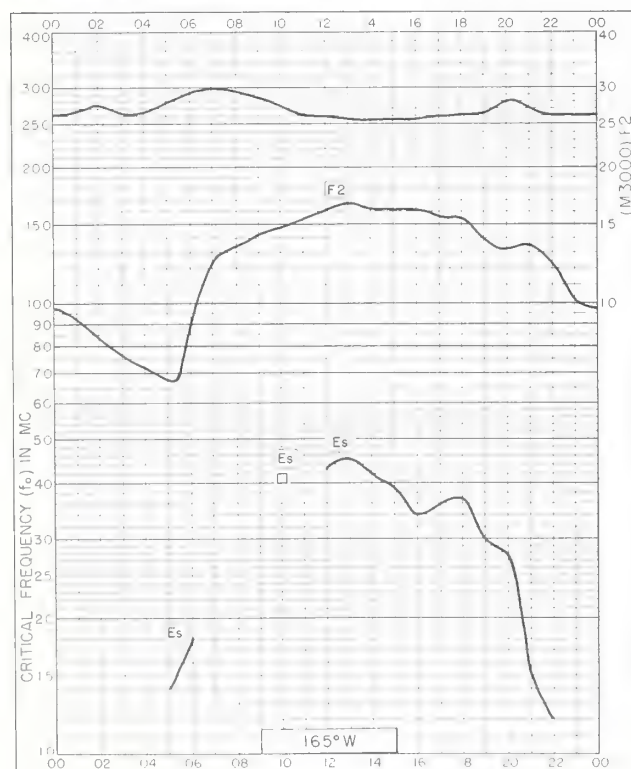


Fig. 99. RAROTONGA I.  
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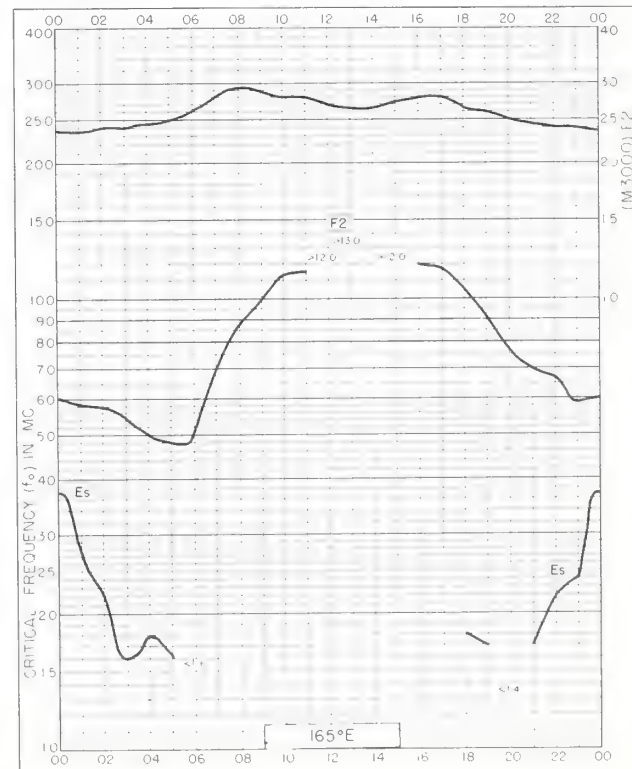


Fig. 100. CAMPBELL I.  
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## CRPL Reports

[A detailed list of CRPL publications is available from the Central Radio Propagation Laboratory upon request]

### Daily:

Radio disturbance forecasts, every half hour from broadcast stations WWV and WWVH of the National Bureau of Standards.  
Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

### Weekly:

CRPL—J. North Atlantic Radio Propagation Forecast.  
CRPL—Jp. North Pacific Radio Propagation Forecast.

### Semimonthly:

CRPL—Ja. Semimonthly Frequency Revision Factors For CRPL Basic Radio Propagation Prediction Reports.

### Monthly:

CRPL—D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11—499—, monthly supplements to TM 11—499; Dept. of the Air Force, TO 31—3—28 series). On sale by Superintendent of Documents. Members of the Armed Forces should address cognizant military office.  
CRPL—F. (Part A). Ionospheric Data.  
(Part B). Solar-Geophysical Data.

Limited distribution. These publications are in general disseminated only to those individuals or scientific organizations which collaborate in the exchange of ionospheric, solar, geomagnetic, or other radio propagation data.

### Catalog of Data:

A catalog of records and data on file at the U. S. IGY World Data Center A for Airglow and Ionosphere, Boulder Laboratories, National Bureau of Standards, which includes a fee schedule to cover the cost of supplying copies, is available upon request.

The publications listed above may be obtained without charge from the Central Radio Propagation Laboratory, National Bureau of Standards, Boulder Laboratories, Boulder, Colorado, unless otherwise indicated. Please note that the F series is not generally available.

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### Circulars of the National Bureau of Standards pertaining to Radio Sky Wave Transmission:

NBS Circular 462. Ionospheric Radio Propagation. \$1.25.  
NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions. 30 cents.  
NBS Circular 557. Worldwide Radio Noise Levels Expected in the Frequency Band 10 Kilocycles to 100 megacycles. 30 cents.  
NBS Circular 582. Worldwide Occurrence of Sporadic E. \$3.25.

These Circulars are on sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Members of the Armed Forces should address the respective military office having cognizance of radio wave propagation.

### Selected Technical Notes of the National Bureau of Standards:

NBS Tech. Note 2. PB151361. World Maps of F2 Critical Frequencies and Maximum Usable Frequency Factors. \$3.50. PB151361-2. \$3.50.  
NBS Tech. Note 13. PB151372. Technical Considerations Leading to an Optimum Allocation of Radio Frequencies in the Band 25 to 60 Mc. \$2.50.  
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18-2. PB151377-2. Quarterly Radio Noise Data (Mar.-May 1959). \$1.00.  
18-3. PB151377-3. (June-Aug. 1959). \$1.00.  
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NBS Tech. Note 31. PB151390. An Atlas of Oblique-Incidence Ionograms. \$2.25.  
NBS Tech. Note 40-1. PB151399-1. Mean Electron Density Variations of the Quiet Ionosphere, 1: March 1959. \$1.25.  
40-2. PB151399-2, etc. 2: April 1959. \$1.25.  
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